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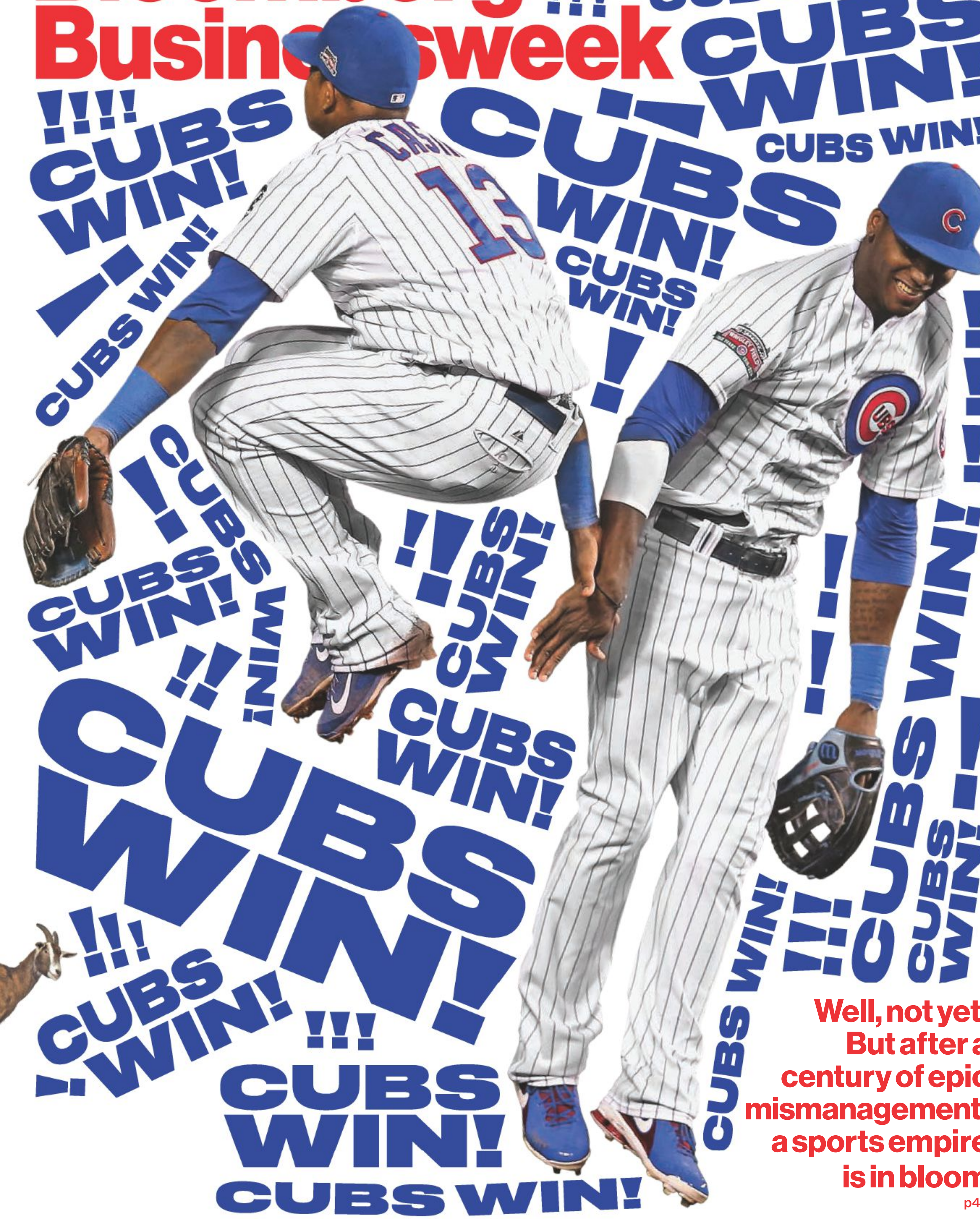
Bloomberg Businessweek



Well, not yet. But after a century of epic mismanagement, a sports empire is in bloom

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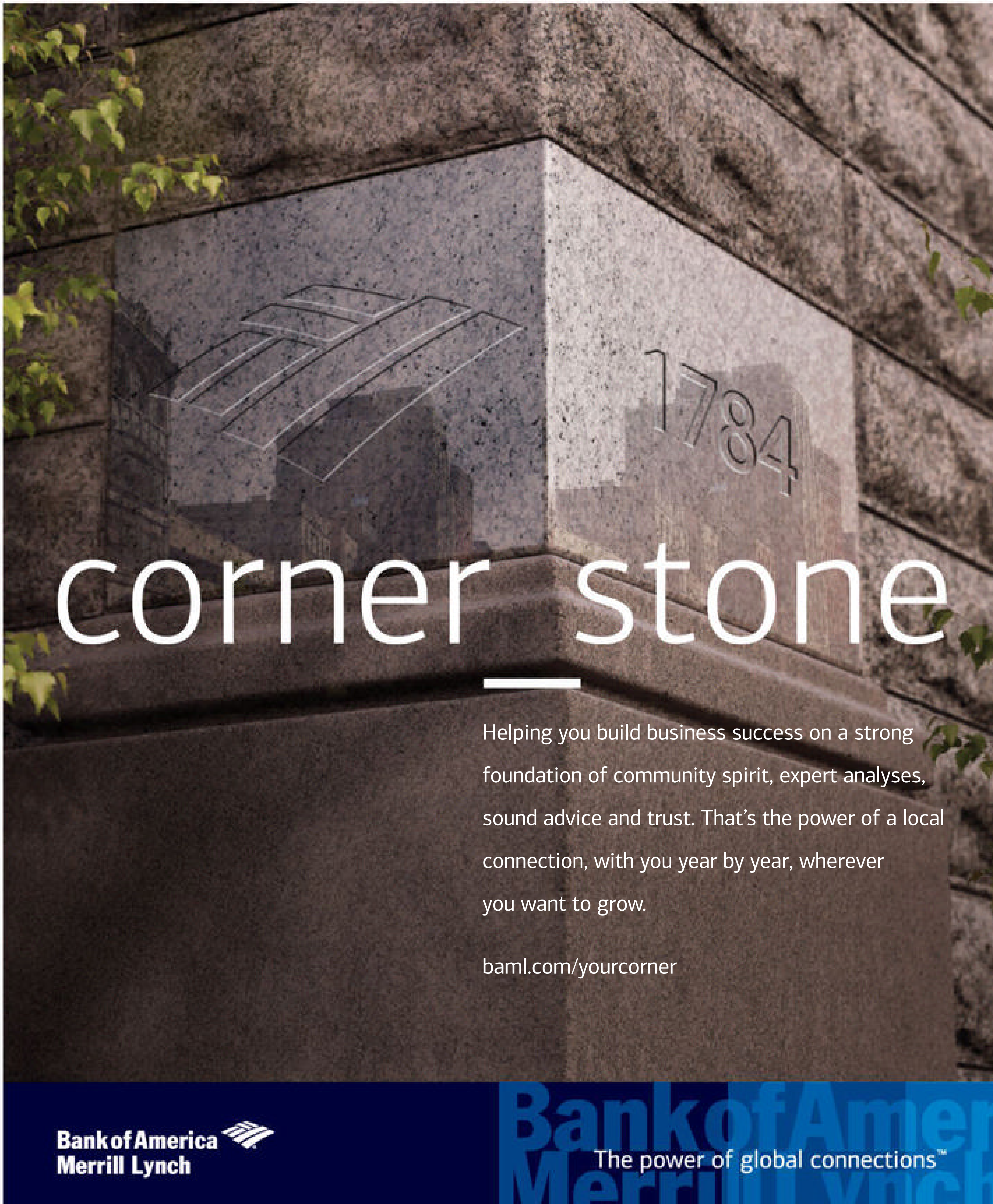
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Cover Trail

How the cover gets made

Domestic Cover

1

"Story is on the Cubs, and how they have a new strategy for being a successful, profitable team."

"Are they a basketball team?"

"No, baseball."

"Where are they from?"

"Chicago."

"And they're not successful?"

"Correct."

"And people care about whether they're successful?"

"They have fans. Bill Murray is one of them. You've heard of him?"

"This may surprise you, but I was always picked last in basketball games."

"It's baseball. And I'd choose Harry Caray before you in a pickup game!"

"Oh, is he a good player?"

International Cover

1

"We interviewed Dilma Rousseff, who's facing a lot of opposition in Brazil amid a corruption scandal."

"That's great. Not the corruption part, but that we're interviewing world leaders now. When do we get to talk to Putin?"

"Somehow, I think we've burned that bridge. But feel free to reach out to his PR team."

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Hard Times For Dilma

By John Micklethwait and Adriana Arai

Brazil's president is a tough realist, but can she overcome the facts on the ground and revive the country's economy?

Dilma Rousseff possesses a technocrat's mastery of facts and figures and the stubbornness of someone who has suffered for her beliefs. She was imprisoned briefly by the military after participating in a Marxist rebellion in the 1960s and early '70s. Three months into her second term as president of Brazil, Rousseff's attempts to revive the seventh-largest economy in the world have failed, and a corruption scandal at state-run oil giant Petrobras that coincided with her 2003-10 term as chairwoman has, along with inflation, exacerbated public discontent. Millions have demonstrated in the streets, some of them calling for her impeachment.

Brazil lurched from civilian to military governments for decades before becoming a democracy in the 1980s, quickly transforming itself into the capital B in BRICS. The charismatic face of the new Brazil was Luiz Inácio Lula da Silva, a leftist who embraced market forces to take advantage of the commodities boom spurred by a voracious China. Brazil's middle class grew from around 24 percent of households in 2000 to about 50 percent today, and the country navigated the global financial crisis better than most major economies. In 2011 the hugely popular Lula left that legacy to his anointed successor, Rousseff, formerly his chief of staff. He also left her a lot of untackled problems—including Brazil's messy statism, evident in the intricate entanglements between business and government.

It's the intertwining of those interests that's erupted in scandal. Petrobras, the 28th-largest company in the world in Fortune's Global 500, with revenue of $141.5 billion in 2014, has been swept up in allegations of kickbacks involving its contractors and politicians from Rousseff's coalition. She chaired the Petrobras board during the period under suspicion before running for the presidency. While no one has charged her with corruption, her public approval polls in March hovered at 13 percent. The economy continues to stumble. Troubles at the country's largest publicly traded investment bank, Grupo BTG Pactual, have alarmed its shareholders. On March 31, the same day that the government announced an unexpected primary budget gap for February, Bloomberg Editor-in-Chief John Micklethwait and Executive Editor Adriana Arai sat down with Rousseff in the presidential palace in Brasilia for an interview.

On whether she saw any evidence of wrongdoing in her seven years as chairwoman of Petrobras:
Rousseff: I am positive that Petrobras will be able to overcome all of its problems by the end of April. I think it is, indeed, working successfully toward that. The new management team and the new board of directors at Petrobras are moving to build that solution. That I can say with utmost certainty.

I'll tell you one thing, we—I, as president—we have done an investigation that is currently involving all of the federal police in this country, plus the federal prosecutor's office and all the judiciary, to go deep and discover what actually happened within Petrobras.

But it was not simply or merely a matter of mismanagement. Not at all. Notice, for example, that its former presidents—I mean, there is no evidence whatsoever that they were involved. The board of directors was made up of members of the business community, high-quality members of the business community, not just myself.

The economy, inflation, and a corruption scandal have brought millions into the streets to protest

I mean, I was the chairwoman, together with a number of several important Brazilian business leaders. None of us ever saw any sign of it, and the signs came to the fore as a result of the criminal investigation, the investigation looking into money laundering and manipulation of reserves. And that's how the story started.

On prosecuting corruption:
For the first time, on a government initiative, we will also be punishing by law the unofficial funding in electoral campaigns. In other words, if proceeds from corruption are detected as funding any election campaign, that will be punished by law. It is not punished today. In all areas, the use of unofficial accounting records is a crime in this country, except for the electoral campaign. So we're going to make it punishable by law and make it a crime, a criminal offense.

On the future of Petrobras:
The market makes objective assessments. Petrobras is a company that will make a profit. We will certainly distribute dividends. Petrobras has a huge capability around it. Petrobras is in a position to go through and overcome the [corruption] episode, especially because the company is now going to make or take drastic measures. Foreign companies abroad that were in similar situations introduced drastic measures and improved their practice. Petrobras is now in a position to enjoy better practices and therefore rebuild itself and leverage itself.

Today, we, of course, are going through a difficult point in time in the world, given the low oil prices. However, part of Petrobras's market is the domestic market in Brazil, its main anchor. And in the domestic market, prices are higher now because [Petrobras] did not increase them in the past. That will facilitate the recovery process. [Note: Consumer gas prices in Brazil are about $4 a gallon, compared with about $2.40 in the U.S.]

On whether she supports a floating currency (the real has lost 25 percent in six months):
You know, one never knows. That's the kind of issue, you never know what the necessary exchange rate is for the real. For us, it's the existing one. Now, we have had to deal with very difficult situations.

One of the issues that Brazil and all the countries in the world faced is that during the crisis our partners each took a different stance. We suffered the consequences of quantitative easing policies. We had an enormous currency appreciation. ▶

RAHEL PATRASSO/XINHUA/EYEVINE/REDUX

Some people attribute the losses experienced by Brazil's industry to that appreciation. But that's reality. It happened. Why? Because if you have a floating exchange rate and you don't contain it, there will be an appreciation.

We are now seeing a different situation—the exit of U.S. monetary policy gives a signal whereby all currencies depreciate vis-à-vis the U.S. dollar, including the euro. We saw a moment that wasn't expected. Even the yen is depreciating. Brazil had one of the most appreciated [currencies] in the whole period—2011, '12, and '13. And that is why we had a larger depreciation.

What we are practicing is a floating exchange rate policy, and we'll continue doing that. Does it have consequences? Yes. But that is true when the currency is appreciated, like it was in Brazil, and when the currency is depreciated. All countries sought a depreciation of their currencies.

For what? In order to export. And we came to that point not because we wanted to, but because the QE policy has been phased out, and so did the rest of the world.

On whether she would be happy or content if the real was further depreciated:
When it comes to the economy, a president cannot describe herself as being happy or unhappy. What you can do is you can be objective, because we are not talking about an issue that takes place out there to please the president. I mean it takes place despite the president. So I can only be very objective in my assessment.

I can assure you that we will not engage in any intervention policy because we do advocate a floating exchange rate policy.

On meeting Brazil's 2015 fiscal target of a 1.2 percent surplus:
I think we will get to 1.2 percent. I will do my utmost. But it's not just a matter of believing in something, it's a matter of political action as well.

On spending cuts in social programs:
Everyone is called upon to do their part. And I must say that we will certainly engage in a substantial cutting effort. We will not lower our social policy activity at all, because it is not the one element in the agenda that accounts for the majority of spending. What we will do is we will cut all administrative activity in the government. We will rationalize the spending, and we will keep on doing what we have always done. There can be no successful social policy if one does not revisit these policies regularly and consistently, and if you do not try to avoid losing focus on your main objective.

Demonstrators in Rio de Janeiro on March 15 demanding Rousseff's ouster

NICSON OLIVIER/NURPHOTO/ZUMA PRESS

The family stipend program has conditionality attached to it. As the name itself indicates, it's an income policy. And, of course, the family will only get the income transfer if it meets certain conditions, that is, the children must attend school and children must be given all health-care procedures, including proper vaccination and medical visits.

Those families or households that do not meet those requirements—in other words, if they have an income level above the required threshold, if they do not ensure that their children are going regularly to school—they will simply no longer qualify for the benefits.

Last year was an electoral year, and we graduated 1.3 million people out of the family stipend program and included 750,000. And many past beneficiaries were excluded because they were able to reach the upper-income threshold or because they do not meet the conditions. Also, because we cross-referenced our data sources and realized that the person could not possibly explain why she had a higher income.

Now our cuts will essentially focus on the running, the spending of the government. We will streamline the government spending, the overall government apparatus, and, soon after the [budget] adjustment is passed, we will introduce microeconomic measures. Brazil might build a time horizon for certain microeconomic measures that are key and essential to ensure our competitiveness.

The Petrobras case emerged from the intricate entanglement of business and government

On whether Brazil is open for business:
If you examine the regulatory framework we passed back in late 2012, early 2013, I think it was early 2013, we opened up Brazilian ports to private-sector investment. The number of private-use port terminals that are currently built in Brazil is quite substantial.

Brazil today is already open for business. But I think we will open ourselves even more from now on, and let me tell you why. I think fiscal rebalancing works as—what you might describe as an anchor of expectations. That's where the resumption of confidence will prove very important.

Brazil is not a country marked by a weak private sector. Brazil has not only a robust financial system as regards its private banks. If you examine, for example, the Basel banking rules, Brazil is well on the way as regards the adoption of the Basel rules. And even in the Brazilian public banking sector, we've never experienced an asset bubble.

That's precisely because, structurally speaking, Brazil today is a different country vis-à-vis the past. We have uplifted 44 million people out of poverty into the middle class. And 36 million people have been uplifted from extreme poverty. This is a totally new, a different country. We have no ethnic conflict. We have no religious conflict. We have a vibrant, very vibrant democracy. And a free press. The giant stands strong. Do not forget that. B

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Time for Singapore To Grow Up

The passing of its nanny emeritus is an opportunity to relax

In building Singapore into a modern economic power, the late Lee Kuan Yew displayed admirable flexibility—scrapping policies that didn't work, expanding those that did. His political heirs should be similarly pragmatic about revising the illiberal social and political policies for which Lee was equally famous.

One might ask, not unreasonably, why. Singapore's economy remains strong, and it continues to attract foreign investment. There is no groundswell of popular opinion calling for an end to caning, for example, or for the establishment of a truly free media. And where loud constituencies are demanding change—to repeal Section 377A of the Penal Code, for instance, which criminalizes sex between men—officials can point to equally strident calls to maintain the status quo.

Doing nothing, however, has costs. Some laws simply tarnish Singapore's reputation; its chewing-gum regulations are probably its single most famous public policy. The damage other laws do is more serious. Limiting free expression in the long term will make Singapore's economy and culture less vibrant.

The most egregious laws belong to another era. Section 377A falls under this category, as does the Internal Security Act, which dates to when Singapore was still part of Malaysia, then battling communist insurgents. Some of the latter's provisions might be useful for combating terrorism, as proponents argue. But the sweeping law, which allows for preventive detention for as long as two years, remains open to abuse.

Singapore could also stand to reconsider how it punishes people who break its laws. This is not just about caning, which harks back to British colonial times and is unfitting for a 21st century economic power. Singapore has recently shown flexibility in easing sentencing laws that call for a mandatory death penalty in drug cases. There's no reason the government couldn't go further and alter sentencing rules for other crimes as well.

Unfortunately, the government's creativity has more often gone into developing subtler ways to control dissent: tying up opponents in drawn-out court cases rather than arresting them. Libel suits have routinely been used as a political tool, and "scandalizing the court"—a catchall charge that chills virtually any debate about the working of the judiciary—remains an offense in Singapore.

A freer media needs to be encouraged, not just tolerated. Singaporeans can already access news from any source, including a few outspoken local blogs and news sites. Trying to curb those online outlets, forcing the most popular ones to register with the government and pay fees, is shortsighted. Better to compete by encouraging state media to be more daring—and credible.

Lee liked to argue that Singapore's economic success was inseparable from its nanny-state rules, that the city would have been a "ruder, cruder," more chaotic place without them. That's debatable and almost certainly no longer true. Singaporeans can afford to abandon this bit of Lee's legacy, and they should.

Elections: Nasty, British, and Short

Why can't U.S. political campaigns be as brief as those in the U.K.?

Britain's political parties began their election campaigns at the end of March, and on May 7 the country's citizens will vote. Campaigns that actually start and finish in just weeks. Could that be worth a try in the U.S.?

Nowadays, U.S. election campaigning has no beginning and no end. Positioning for the elections of 2016—still 20 months away—started before the results of the 2014 congressional vote were announced last November. The next contest for the presidency is fully engaged, even though most of the candidates haven't even said they're running. Soon it will be time to start thinking about the 2018 midterms.

An optimist would say that politics-as-permanent-campaign holds leaders continuously to account. The trouble is, it holds politicians accountable mainly for their performance as campaigners, not as participants in a functioning government.

Perpetual horse-race politics is all about short-term tactics, the latest headlines, and what's trending on social media. Good policies and the patience to make them work are largely beside the point. The permanent campaign sucks up time and attention—and demands lots and lots of money. It squanders political resources and makes it harder to govern.

Granted, it's debatable whether the U.K., with its compressed electioneering, has been better governed than the U.S. More governing isn't necessarily better, as the framers well understood. The U.S. Constitution's checks and balances deliberately make governing hard. But the balance has been upset by the media's ever-shortening attention span and the wider public's diminishing engagement.

One can debate institutional reforms, up to and including constitutional amendments, that might restore the balance. Term limits in Congress; four-year terms for the House of Representatives; single six-year terms for the president; mandatory voting; strict curbs on political spending; and so forth. Some of those things might be desirable, but none are happening anytime soon. B

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OVER 40 DESTINATIONS

Abe's Rust Belt Problem

▶ **Reforms have helped exports, but aren't bringing jobs home**

▶ **Abenomics has "nothing to do with us"**

Crows circle the tract of cleared land that was formerly **Hoya**'s Pentax camera plant in Mashiko, 60 miles north of Tokyo. All that's left is a sign directing employees to a dormitory and gymnasium, both pulled down years ago when a strong yen drove companies like Hoya to boost production abroad.

Once part of Japan's industrial heartland, Mashiko today highlights some of the biggest challenges to Abenomics, Prime Minister Shinzo Abe's program of government spending and ultralow rates. Abe's had success with a cheaper yen, a stock market boom, and swelling profits at the nation's largest companies. Working with his central bank chief, Haruhiko Kuroda, he's also made some progress chipping away at the "deflationary mindset" that has stunted efforts to revive growth in the past.

None of this has done much to bring factories and jobs back to Mashiko and other places in Tochigi prefecture. The area doesn't feature in the prime minister's plans for special economic zones. Abenomics has provided industries with little incentive to expand at home. Despite Kuroda's 2 percent inflation target, Japan is once again flirting with deflation, which could weigh on growth and shrink the domestic market for manufacturers. Last year an ill-timed sales tax hike sparked a recession.

As the population contracts in Japan, there's even less reason for companies with worldwide reach to increase output at home. Carmakers and electronics giants that shifted production overseas seem unlikely to move manufacturing away from customers in expanding markets. "When you think about the cost of re-creating what's gone and the yen's current level, it makes sense for them to keep production abroad," says Ryutaro Magome of the Ashigin Research Institute in Tochigi. The prefecture is littered with abandoned or downsized plants, some from companies that are global brands, such as **Panasonic** and **Sony**.

Some big manufacturers show tentative signs of returning home. Panasonic,

PHOTO ILLUSTRATION BY 731; PHOTOS: ABE: KAZUHIRO NOGI/AFP/GETTY IMAGES; GEAR WHEEL: IRINA FISCHER/ALAMY

It's miners against divers at the Great Barrier Reef 14

Replacing Borneo's filthy lucre. Seriously, it stinks 16

air conditioner maker **Daikin Industries**, and **Sharp**, which cut its production of televisions in Japan, have said they may bring back some work, and **Canon** and **Nissan Motor** have said they plan to boost domestic output.

Most of the blight affects the hundreds of smaller, domestically focused producers supplying the big corporations, which make up most of Japan's manufacturing. They have fewer buyers for their wares, and the yen's 30 percent slump against the dollar since Abe came to power two years ago has meant higher costs for imported materials and parts. Production remains below a 2007 peak, and the most recent gross domestic product report noted that capital spending had fallen for a third straight quarter. Japan has yet to agree to enter the U.S.-led Trans-Pacific Partnership trade pact, still being negotiated, which would lower barriers to exports in exchange for rolling back protections for Japanese farmers.

Down the road from the razed Hoya camera factory in Mashiko, Yuichi Ojima runs an auto inspection and repair shop that's been in business for more than 40 years. He recalls the days when houses were built for plant workers and their families. The mention of Abenomics brings only a hollow laugh. "It's set up to benefit only big companies," says Ojima, 43, who's worked at the shop for about 20 years. "It has nothing to do with us." At companies such as **Toyota Motor** and **Fast Retailing**—owner of Uniqlo—a weaker yen means higher reported income as they repatriate overseas earnings to Japan. For Ojima, it equals more expensive imported parts.

The uneven distribution of the gains from Abe's policies is one of the most pressing problems for the government. Voters who extended his mandate in national elections in December have another chance to voice their views in April in prefectural and municipal contests. How Abenomics proceeds over the next three years, before the prime minister reaches a statutory limit to his leadership of the ruling party, will help determine whether his pro-inflation policies continue when he's gone. The latest data suggest he'll need all the time he can get, with the central bank's favored price gauge showing inflation at zero after stripping out the effect of the sales tax hike.

$33

Increase in the monthly base wage at Toyota—its biggest raise in more than 20 years

"Abe needs to give companies incentives to stay in Japan through further tax cuts and regulatory reform," says Takeshi Minami, an economist at Norinchukin Research Institute in Tokyo. "He needs to create a system in which companies feel like they have to raise wages more." Parliament has approved the first of several cuts to corporate taxes that will take Japan's rate from about 35 percent to the 20s over the next few years. Toyota will raise monthly base wages by 4,000 yen ($33), or about 1.1 percent, part of its biggest pay increase in more than two decades.

Mashiko's mayor, Tomoyuki Ohtsuka, isn't waiting on Abenomics. He says the town has to replace the factories with what it's got left. That includes luring visitors with its ancient tradition of pottery. And one corner of the old Hoya site shows potential: a factory that makes artificial bones for the growing ranks of the nation's elderly. —*Yoshiaki Nohara*

The bottom line Japan's economic reforms have produced uneven gains, and that may prove fatal to Abenomics.

Education

China's Dickensian Boarding Schools

▶ Teaching at many rural schools is poor; living conditions are worse

▶ "Their emotional development isn't very good"

In the U.S. the words "boarding school" conjure images of children attending class in ivy-covered buildings, eating in oak-paneled dining halls, and exercising on well-manicured sports fields. An increasing number of these fortunate students come from wealthy families all over the globe—many from China.

That cosseted world is unimaginable to the 33 million children living and studying in China's 100,000 rural boarding schools—a number roughly equal to two-thirds of all children enrolled in U.S. public schools. At a rural elementary school in a poor, mountainous region of Shaanxi province in China's northwest, the 60-odd students, age 5 to 14, sit for their lessons in dirty, concrete-walled classrooms. Meals, cooked on wood-fired stoves, are spare; meat is a once-a-week extravagance. Eighteen boarders sleep in bunks in unheated rooms.

"The students who go home for the weekend are OK. I worry most about those who live here all the time."

Hunger and loneliness are commonplace, according to students, who spend more than 10 months a year at the school. A 13-year-old girl bundled up in a pink parka to keep warm against the early March chill says she gets to see her parents, who work in the provincial capital of Xi'an, only two or three times a year. "The most difficult part of being here: I miss my mother and father," she says, breaking into tears. The girl, other students, teachers, and administrators interviewed for this story asked that neither they nor the school be identified, as they were not authorized to speak to foreign media.

Data gathered by independent researchers show that Chinese boarders lag emotionally and academically. "The boarding kids are the ones who cause the most trouble," says the principal of a junior high school in Shaanxi that has a mix of boarding and day students. "Their emotional development isn't very good because they haven't grown up with their parents," he says. "They don't study or do their homework, and when they come to class they just play with their mobile phones." He adds that a request for permission to hire more "life teachers," to help boarders with psychological issues, was rejected by the township education bureau.

China's boarding schools are the product of a government policy of closing or merging small rural day schools in response to falling birthrates. According to the education ministry, more than 240,000 village schools have been closed since 2000 and replaced with thousands of academies built ▶

◀ to board students. China has more than 100 million rural students in first through ninth grades. The proportion of them who live at school has grown rapidly in recent years, reaching more than a quarter in 2011, says Yang Dongping, director of the 21st Century Education Research Institute in Beijing. A large number of these children are what Chinese call *liushou ertong*, or "left-behind children," whose parents labor in factories and on construction sites in wealthier regions of the country. Stringent residency rules make it almost impossible for migrant workers to enroll their children in city schools.

Beijing policymakers envisioned rural boarding schools as a means to narrow the educational performance gap between cities and the countryside. There's no evidence they've succeeded. A study by Stanford, the University of California at Davis, the Chinese Academy of Sciences, and Catholic University of Leuven found that fourth-graders in rural areas are at least two grade levels behind their urban peers in math and Chinese. Fewer than one-half of rural students finish high school, compared with 90 percent in the cities. "The reality is that elementary students who board have a very obvious and serious problem with academic performance, compared to those who don't board," Yang says. Officials at China's education ministry didn't respond to faxed questions or telephone calls.

Boarding students trail their peers in other ways. The average boarder is 3 centimeters shorter than a nonboarder, according to another joint study by Stanford, the Chinese Academy of Sciences, and Northwest University in Xi'an. "The students who go home for the weekend are OK. I worry most about those who live here all the time," says the principal of the Shaanxi elementary school. "They have enough to eat but not necessarily always the right nutritious things."

Years of living in dirty, crowded dormitories with little supervision—one dorm monitor is often in charge of more than 100 students—exact a psychological toll. With few if any extracurricular activities, students spend much of their spare time confined in classrooms engaged in "self study." Sixty-three percent of boarding students say they're lonely, and almost a fifth are depressed, with many considering suicide, according to a study published this year by Growing Home, a Beijing research organization that focuses on education. "I hated the dormitory most of all—I never imagined it could be so crowded," says a 19-year-old who slept in a room with 20 others at boarding school before dropping out two and a half years ago. "Still, I often regret not staying," he says wistfully during a break between shifts as a cook at a restaurant in Xi'an.

Since 2010, China's education ministry has spent at least 61.8 billion yuan ($10 billion) renovating school buildings in rural areas, the official Xinhua News Agency reported last year. Boarding students are now eligible for subsidies to pay for everything from schoolbooks to daily necessities, and government-imposed tuition fees have been waived. While these efforts are laudable, they aren't enough, Yang says. "The hardware is easy. They can just spend money and build more buildings. But solving the software problems—creating a better, healthier, more caring environment—I see no hope there."

Scott Rozelle, co-director of the Rural Education Action Program at Stanford's Freeman Spogli Institute for International Studies, cautions that China's deficit in rural education could one day rise to the level of a national crisis. Just one-quarter of Chinese workers have a high school education, which makes the workforce less educated than those of Turkey, Brazil, and South Africa. "There is no way China can become the high-wage, skilled economy its leaders say they want when 400 million working-age adults can't read or write," he says. —*Dexter Roberts*

The bottom line A policy of putting children in rural areas into boarding schools may be creating an education crisis in China.

Great Expectations

China has been funneling rural children into boarding schools for more than a decade.

33m
Approximate number of children in boarding schools in rural China

About two-thirds the number of students enrolled in U.S. public schools

100,000
Number of rural boarding schools

240,000
Village schools closed over the past decade

63%
Share of rural students who report being lonely; almost a fifth are depressed

3cm
The average amount by which a boarder is shorter than a nonboarder

8/100
Odds of a rural student going to college, vs. 70/100 for a city dweller

Carbon

A Fight in Australia Pits Coal vs. Coral

▶ Activists say more coal exports will harm the Great Barrier Reef

▶ "It will be one of the lowest-cost coal-producing operations"

Australia's Great Barrier Reef, the world's largest coral reef, is home to more than 1,600 species of fish. If two mining companies from India have their way, the region will soon also host one of the world's largest coal shipping ports.

Adani Enterprises is behind a $5.5 billion project that will connect Australia's largest coal mine, which it's planning in the Galilee Basin in Queensland, to a new terminal at Abbot Point, about 50 miles from the reef, along the state's northeast coast. Adani already owns one terminal there that exports a small percentage of coal from other mines in Queensland. The Indian conglomerate **GVK** and Australian mining company **Hancock Prospecting** want to build a third terminal to export coal to Asia.

The mining companies say new infrastructure will boost exports. Environmentalists argue that a rise in coal shipments from the area will release more carbon into the

DATA: MINISTRY OF EDUCATION; BEIJING GROWING HOME; CHINESE ACADEMY OF SCIENCES, NORTHWEST UNIVERSITY AND STANFORD UNIVERSITY
FROM LEFT: SEAN GALLAGHER/NATIONAL GEOGRAPHIC CREATIVE/CORBIS; TOM JEFFERSON/GREENPEACE; DOUG PERRINE/SEA PICS

atmosphere and damage coral that's already at risk from climate change. Australia exports about a million tons of coal a day.

The terminals would be disastrous for the reef, says David Booth, director of the Centre for Environmental Sustainability at the University of Technology, Sydney, and president of the Australian Coral Reef Society. In March, ACRS issued a report warning that dredging the seabed to enlarge the port would release underwater sediment that would damage the reef. The Society is also concerned about increases in shipping traffic and coal dust. GVK Hancock Coal, the Indian-Australian joint venture, has denounced what it calls "a campaign of misinformation about nonexistent impacts to the Great Barrier Reef."

During a visit to Brisbane for the Group of 20 summit last November, President Obama got a lesson in the politics of the reef. His comments about threats to the ecosystem from climate change prompted a rebuke from Australia's minister for trade and investment, Andrew Robb, who called them "misinformed" and "unnecessary."

Australia is trying to avert the embarrassment of the United Nations declaring the reef an endangered site. Unesco will meet in June to consider a change in status. Prime Minister Tony Abbott, who as recently as October said coal "is good for humanity," has scrambled to prevent the reputational damage that would come with an endangered designation—the Great Barrier Reef is a prime tourist destination for its snorkeling and diving. "We are all conservationists," Abbott told reporters on March 21 on an island near the reef, where he announced a long-term sustainability plan and acknowledged the threat of climate change to the reef.

The opposition Labor Party, which took control of the Queensland government in February, is allowing the projects to go forward, but it quickly moved to scrap port expansion proposals that called for developers to dump dredging waste in a nearby wetland or directly into the ocean. On March 11 the new state government announced that all dumping must go to an onshore site next to the Abbot Point terminal, which is designed to keep sediment away from the reef. The plan also calls for industry, not taxpayers, to foot the bill for the dredging. The proposal is "environmentally sustainable and fiscally responsible," the Queensland government said in its announcement.

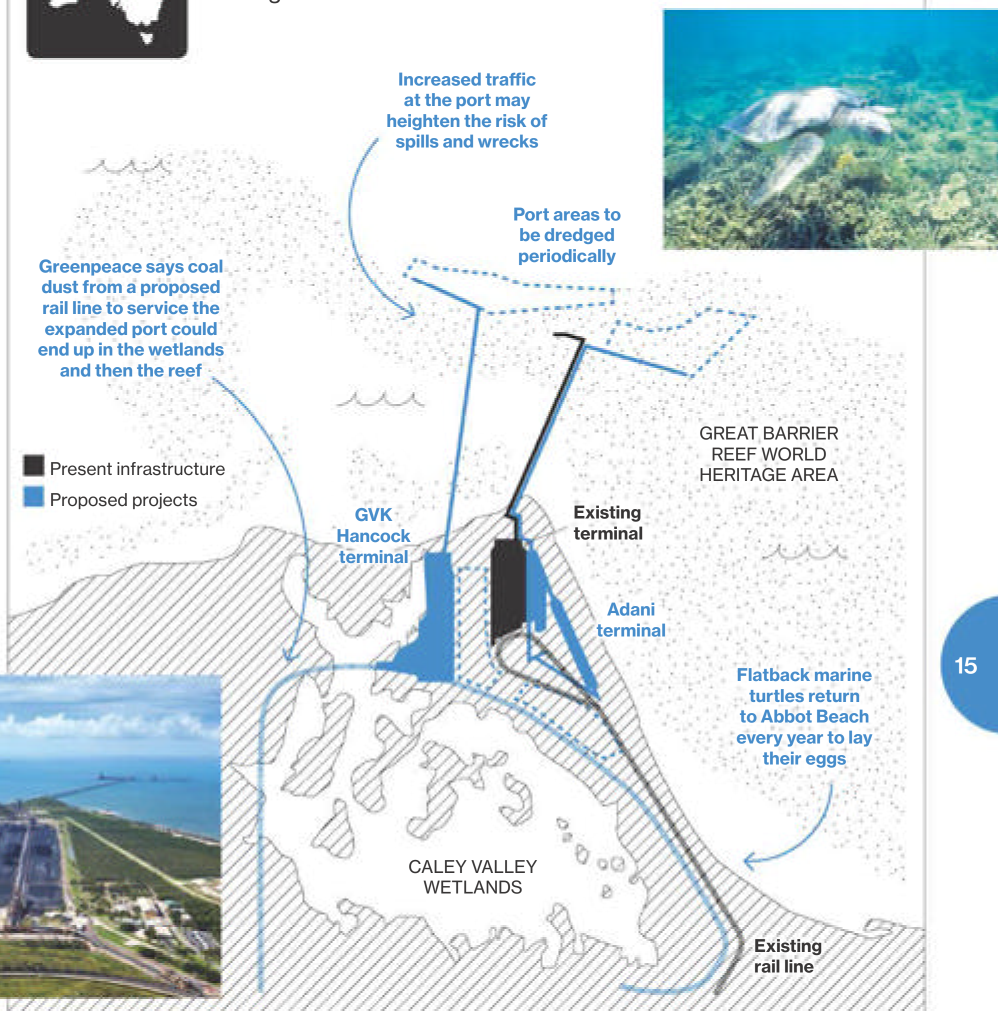
Still, the projects' future is unclear. Critics have launched legal challenges. With coal prices worldwide down by more than half in recent years, Daniel Morgan, a UBS analyst in Sydney, says prices would need to jump more than 40 percent for the projects to be viable. New supply "is not needed by the market in the next 10 years," he says.

Adani wants to start producing coal in 2017. GVK won't give a start date but says it will create 7,500 construction jobs and $30.5 billion in royalties and tax revenue. Adani says 10,000 jobs and $16.8 billion in royalties and tax revenue will come from its project.

While global demand for coal may be slowing, India is still forecast to pass the U.S. as the world's second-biggest user by 2019, with annual growth of 4.8 percent in its demand, according to an International Energy Agency report in December. The slide in coal prices won't hurt the business case for extracting coal from the Galilee Basin, says Josh Euler, general manager for external affairs with ▶

Great Barrier Grief

Proposed large-scale expansion of the port at Abbot Point would increase the amount of coal Australia can ship abroad. Environmentalists say the project will damage the Great Barrier Reef.



DATA: QUEENSLAND DEPARTMENT OF STATE DEVELOPMENT, GVK HANCOCK, ADANI, GREENPEACE

◀ GVK Hancock Coal, since the project will use cutting-edge methods that make mining less expensive. "It will be one of the lowest-cost coal-producing operations in Australia," he says. When it comes to cyclical swings in prices, he adds, "we are relatively immune." —*Bruce Einhorn and James Paton*

The bottom line Two Indian mining companies say infrastructure improvements at Abbot Point will boost Australia's coal exports.

Monetary Policy

Dwi's Big Adventure

▶ A central banker carries fresh cash to remote Borneo

▶ "Indonesians living near the borders often feel neglected"

It takes Dwi Suslamanto three days by car to reach the small, rusting ferry that takes him across the Kapuas River on Borneo. His destination, the border town of Badau, is five hours more up a dirt road.

Suslamanto, the Indonesian central bank chief for Borneo's West Kalimantan province, is taking 5 billion rupiah ($382,000) in new bills to one of the country's most remote regions, along the border which snakes 1,255 miles through highland jungles to divide the Malaysian and Indonesian parts of an island bigger than Texas. Badau is one of several towns on the border where Suslamanto delivers cash.

Suslamanto

He's here to prevent an invasion from Malaysia—not of battalions, but bank notes. The Malaysian town of Lubok Antu is only 15 minutes by motorbike from Badau. Indonesians cross the border to shop and pay on both sides with Malaysian ringgit. "Indonesians living near the borders often feel neglected, and that's a threat," Suslamanto says, "when they feel that our neighbors care more than we do."

The neglect, evidenced by a lack of paved roads and poor service from utilities, chips away at the inhabitants' sense of Indonesian identity. Thirteen years ago this shoddy treatment cost the country territory. In a dispute between the two nations over two islands, the International Court of Justice, the judicial branch of the United Nations, ruled in favor of Malaysia on the grounds that it had supplied the inhabitants with currency, bridges, and roads. "Never again," Suslamanto says. At each town along his route, he asks officials how much cash they need. He supplies local banks with fresh-from-the-mint currency so banks can replace customers' torn and stained paper money. They can also exchange ringgit used by Indonesians who don't have enough of their own currency.

Keeping Indonesia supplied with cash isn't easy. There are about 1,000 inhabited islands in the archipelago, which stretches almost 3,200 miles—the distance from New York to Alaska. Some, like New Guinea and Borneo, are vast and just getting state-funded roads and electric power in their interiors.

The road from the provincial capital of Pontianak that brought Suslamanto's two-SUV convoy (the rear one carries the money and armed police) alternates between asphalt and dirt. Part of the reason for his trip is to see if the roads and bridges can take the bank's armored vans, which would deliver fresh cash more regularly. President Joko Widodo has pledged to build more roads and utilities in 50 regions that border neighboring countries, partly to appease Indonesians there and elsewhere outside Java, the most populated island and the main recipient of infrastructure funds.

Badau gets its electricity from **Sarawak Energy**, a Malaysian utility. (Sarawak is a state in the Malaysian part of Borneo.) Convenience stores in Badau stock Malaysian-made snacks and canned drinks. Some shopkeepers and business owners accept both ringgit and Indonesian rupiah, says A.M. Nasir, the town's regent. Hartati, a restaurant owner who like many Indonesians uses only one name, crosses the border to Lubok Antu every week for supplies. "The meat is fresh and the vegetables, too, and I don't have to spend hours driving to Semitau," the big Indonesian town where Suslamanto took the ferry, Hartati says. "If I could get cheaper and better supplies from Indonesia, of course I would buy in rupiah."

Malaysian and Indonesian are related tongues, so it's easy for people from Badau to find jobs in Lubok Antu. That trend has eased as palm-oil plantations open on the Indonesian side. "Now the plantations serve as living walls protecting our borders," Nasir says. "The people can remain on Indonesian soil to find work, and they're paid in rupiah."

Before the crisp new bills came, the rupiah notes in use were unpleasant to handle. "Old paper money gets damp, dirty, and very smelly," says Stepanus, who sells motorbike tires and spare parts in Badau. He says he gives change in ringgit notes, which are mostly made of polymer: "I feel very ashamed handing out old rupiah bills to my customers. But somehow the ringgit stays clean." —*Yudith Ho*

The bottom line To secure its people's loyalty, Indonesia is trying to keep Malaysia's currency from crossing the border.

Edited by Chris Power, Cristina Lindblad, and Dimitra Kessenides
Bloomberg.com

SUSLAMANTO: YUDITH HO/BLOOMBERG; RUPIAHS: NICK FIELDING/ALAMY (4)

April 6 — April 12, 2015

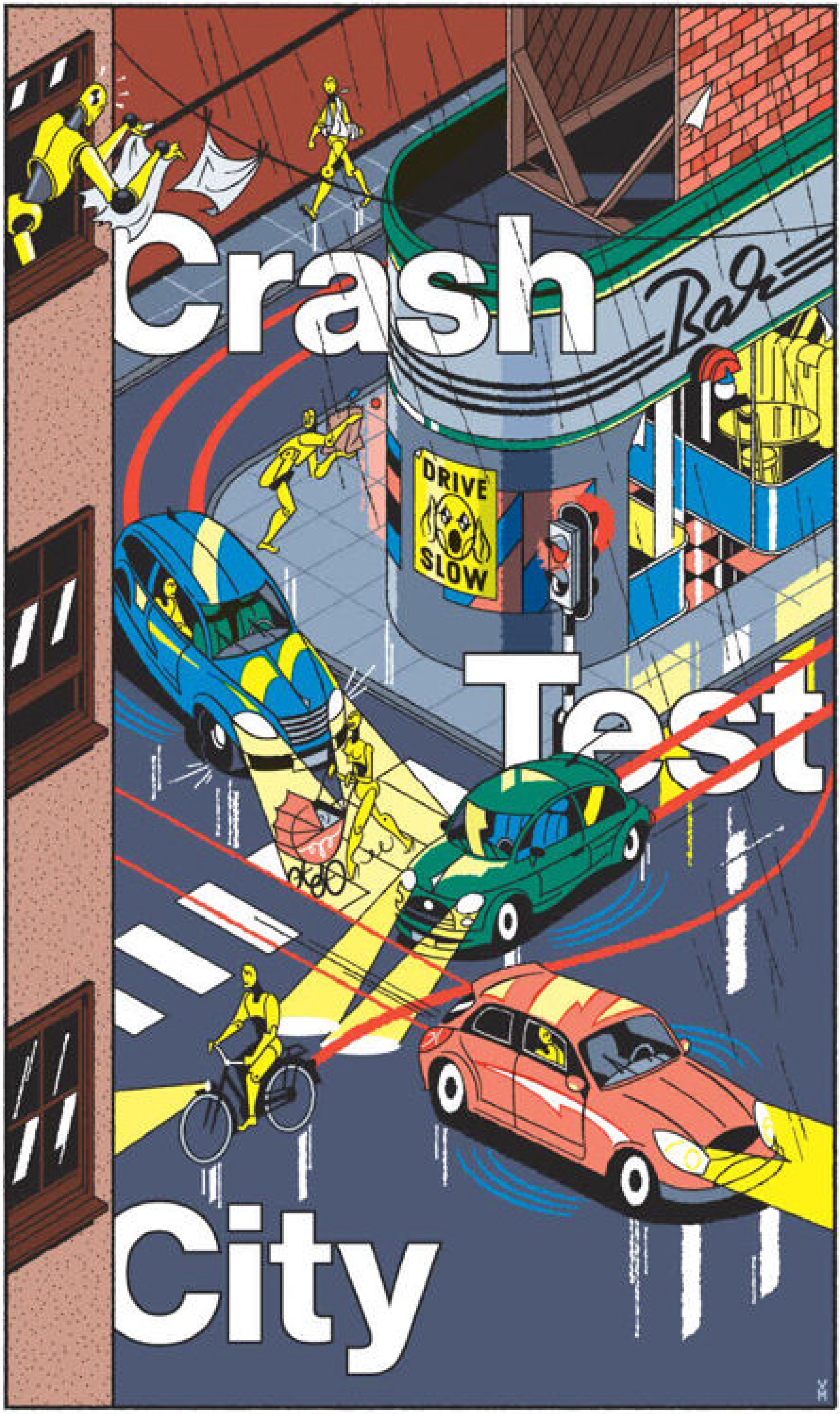


ILLUSTRATION BY VIKTOR HACHMANG

▶ Building a faux town to put driverless cars through their paces

▶ It will mimic traffic's chaos—"That's why this is really important"

A mother pushing a baby carriage jaywalks across a busy city street. Cutting between two parked cars and partially obscured by a bus, she edges her stroller into traffic before freezing as a speeding car bears down on her. Will the car stop in time? Or will it mow down mother and child? It doesn't really matter: The mom is a robot, and the car is a driverless vehicle cruising down a fake street in a mock town.

Welcome to M City, a soon-to-open 23-acre mini-metropolis at the University of Michigan, where automakers can test autonomous cars to prepare for the driverless future expected within a decade. Seeking to replicate a modern city's chaos—traffic jams, unpredictable pedestrians, weaving cyclists—M City starts running on July 20 and has carmakers and tech companies queuing up to conduct research on its roads.

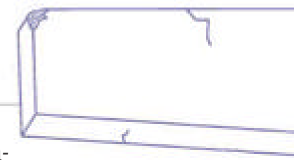
"We've been inundated with requests for visits and demonstrations," says Peter Sweatman, who oversees M City, a collaboration between the university's Transportation Research Institute, the Michigan Department of Transportation, and big automakers including **Ford Motor**, **General Motors**, and **Toyota Motor**.

Until now, tests of autonomous cars have been conducted on public roads or private proving grounds. **Google**'s self-driving Toyota Priuses, equipped with laser radar saucers on their roofs, are a common sight in Silicon Valley. Other automakers study robot cars on old test tracks designed to evaluate how fast new models can run laps or how well they handle with humans at the wheel. But such testing doesn't provide a controlled environment to evaluate how autonomous cars cope with the vagaries of everyday driving.

M City sits amid towering pines in the Detroit suburb of Ann Arbor, a short hop from the technology labs of multiple carmakers. Once completed this summer, the $6.5 million facility will be outfitted with 40 building facades, angled intersections, a traffic circle, a bridge, a tunnel, gravel roads, and plenty of obstructed views. There's even a four-lane highway with entrance and exit ramps to test how cars without a driver would merge.

"Mechatronic pedestrians" who occasionally pop out into traffic will ▶

Audi's driverless A7 concept model, shown at the 2015 Consumer Electronics Show, will likely be tested on M City's streets



◀ provide a critical—and bloodless—measure of whether sensors and automatic brakes can react in time to avoid running down a real person. As in a Hollywood backlot, building facades can be rearranged to add to the chaos confronting the chip-controlled vehicles.

Eventually, hundreds of robot cars will ply M City's urban byways in all seasons and weather conditions. "We would never do any dangerous or risky tests on the open road, so this will be a good place to test some of the next technology," says Hideki Hada, general manager for electronic systems at Toyota's Technical Center in Ann Arbor. "A big challenge is intersections in the city, because there are vehicles, pedestrians, and bicycles together with complex backgrounds with buildings and connections to infrastructure. That's why this is really important."

Self-driving cars that move in harmony by sensing one another and the environment are expected to one day ease congestion and improve road safety. With the majority of people expected to move to megacities globally in the next 25 years, chip-controlled robo taxis could drive closer together, carrying more people in fewer vehicles. The cars will also let commuters multitask while traveling, boosting productivity.

The market for driverless technology—everything from collision-avoidance sensors to microchips capable of processing life-or-death decisions in a millisecond—will grow to $42 billion annually by 2025, and self-driving cars may account for a quarter of global auto sales by 2035, according to Boston Consulting Group. That helps explain why Ford, GM, and Toyota, as well as **Honda Motor** and **Nissan Motor**, are lending their technical expertise to M City. It's also why tech giants **Apple** and Google are developing their own driverless cars.

In coming years, federal, state, and city officials will have to decide how roadways should be designed, lighted, and controlled in a world with self-driving cars. Will road signs and traffic lights be necessary? What happens in a power failure? The search for answers is what led the Michigan Department of Transportation to pay $3 million of M City's construction costs. The university picked up the rest.

Automakers aren't waiting for all the results. **Tesla Motors** plans to offer a self-steering version of its Model S sedan this summer, and GM says it will introduce hands-free highway driving technology on a Cadillac in two years. The first totally self-driving vehicles will likely arrive on public roadways within five years, Ford Chief Executive Officer Mark Fields said in January.

Daimler's Mercedes-Benz already sells a system that can pilot a car on the freeway if the driver keeps a hand on the wheel and by 2016 will have a hands-free system, according to BCG. Honda, **Hyundai Motor**, and Toyota's Lexus line each offer autonomous features that help steer and stop their cars.

While Toyota has a city test course in Japan that replicates driving conditions there, M City will give the automaker a chance to try out technology in a more hectic U.S. environment. And it allows Toyota to experiment alongside other carmakers testing their own autonomous cars—something many believe will speed adoption of common standards for such vehicles. "The value is that it's open to the public and other researchers," Hada says. "That's the interesting opportunity."

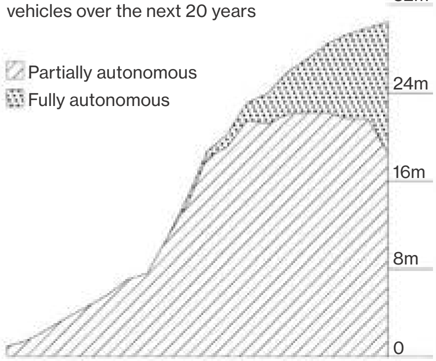
Since the Michigan test facility is deep within the snow belt, M City's managers will leave plenty of the white stuff around to mimic the patchy snow removal typical of big U.S. cities. Snow and rain wreak havoc on sensors, and researchers have yet to figure out how to make them see through a blinding winter squall. "The all-weather test will very much be a benefit," says Ron Szabo, director for software services engineering at **Delphi Automotive**, which supplies car electronics.

Already the university, automakers, and the National Highway Traffic Safety Administration are testing 3,000 Web-connected cars on regular Ann Arbor roads, monitoring their ability to communicate road congestion and local weather. M City research will eventually give those cars the ability to sense one another and nearby traffic signals. "On the controlled site we can test the failure of a traffic light," says Szabo. "In the real-life situation, you are certainly not going to make that happen." *—Keith Naughton and Jeff Green*

The bottom line Automakers are eager to test their robot cars in the $6.5 million driverless city being built by the University of Michigan.

Hands-Free

Projected global unit sales of autonomous vehicles over the next 20 years



DATA: BOSTON CONSULTING GROUP

Fracking

Oklahoma Shakes: Big Oil's Link to Big Quakes

▶ Energy firms tried to slow scientific studies tying them to earthquakes

▶ "A conflict of interest that we never before could've imagined"

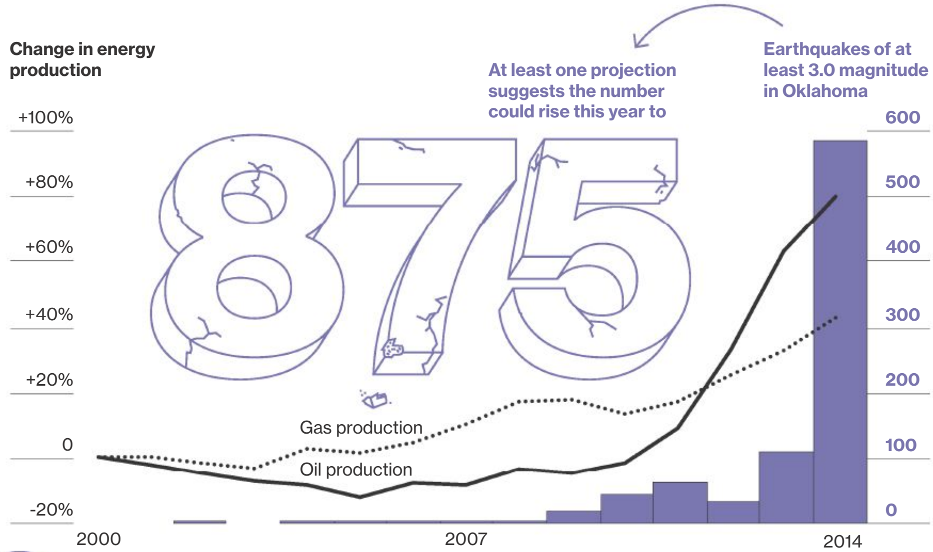
In November 2013, Austin Holland, Oklahoma's state seismologist, got a request that made him nervous. It was from David Boren, president of the University of Oklahoma, which houses the Oklahoma Geological Survey where Holland works. Boren, a former U.S. senator, asked Holland to his office for coffee with Harold Hamm, the billionaire founder of **Continental Resources**, one of Oklahoma's largest oil and gas operators. Boren sits on the board of Continental, and Hamm is a big donor to the university, giving $20 million in 2011 for a new diabetes center. Says Holland: "It was just a little bit intimidating."

Holland had been studying possible links between a rise in seismic activity in Oklahoma and the rapid increase in oil and gas production, the state's largest industry. During the meeting, Hamm requested that Holland be careful when publicly discussing the possible connection between oil and gas operations and a big jump in the number of earthquakes, which geological researchers were increasingly tying to the underground disposal of oil and gas wastewater, a byproduct of the fracking boom that Continental has helped pioneer. "It was an expression of concern," Holland recalls.

Details surrounding that meeting and

More Energy, More Problems

Fracking has opened up new sources of oil and natural gas in Oklahoma, driving a surge in production over the past several years. At the same time, the state has seen a sharp rise in seismic activity.



CHANGES IN ENERGY PRODUCTION ARE THE PERCENTAGE CHANGE IN NATURAL GAS AND CRUDE OIL PRODUCED IN OKLAHOMA SINCE 2000
DATA: ENERGY INFORMATION ADMINISTRATION, U.S. GEOLOGICAL SURVEY

others have emerged in recent weeks as e-mails from the Oklahoma Geological Survey (OGS) have been released through public records requests filed by Bloomberg and other media outlets, including EnergyWire, which first reported the Hamm meeting.

The e-mails suggest a steady stream of industry pressure on scientists at the state office. But oil companies say there's nothing wrong with contact between energy executives and scientists. "The insinuation that there was something untoward that occurred in those meetings is both offensive and inaccurate," says Continental Resources spokeswoman Kristin Thomas. "Upon its founding, the Oklahoma Geological Survey had a solid reputation of an agency that was accessible and of service to the community and industry in Oklahoma. We hope that the agency can continue the legacy to provide this service."

Likewise, Boren says such conversations are harmless. "The meeting with Harold Hamm was purely informational," the university president said in a statement on March 27. "Mr. Hamm is a very reputable producer and wanted to know if Mr. Holland had found any information which might be helpful to producers in adopting best practices that would help prevent any possible connection between drilling and seismic events. In addition, he wanted to make sure that the Survey (OGS) had the benefit of research by Continental geologists." Boren is a member of the board of the Bloomberg Family Foundation, founded by Michael Bloomberg, majority owner of Bloomberg LP, which publishes *Bloomberg Businessweek*.

Before Holland became the state seismologist in 2010, Big Oil and state researchers had little to argue about. Over the previous 30 years, Oklahoma averaged fewer than two earthquakes a year of at least 3.0 in magnitude. In 2015 it's on pace for 875, according to Holland. Oklahoma passed California last year as the most seismically active state in the continental U.S.

One significant change in drilling practices is contemporaneous with the increase in seismic activity: horizontal hydraulic fracturing. Fracking has been around for decades, but technological advances have allowed companies to drill sideways, injecting a high-pressure mix of water, mud, and sand into shale formations deep underground, creating access to previously unreachable pockets of oil and gas. Oil production in Oklahoma has more than doubled over the past decade, creating new wealth for the state as well as an unwanted surplus of wastewater. Horizontal wells can produce as much as 9 or 10 barrels of salty, toxin-laced water for every barrel of oil. Much of that fluid is injected back underground into wastewater disposal wells. It's this water, injected near faults, that many seismologists—including those at the U.S. Geological Survey—say has caused the spike in earthquakes.

The Hamm and Boren meeting wasn't the only such informational session. In an e-mail from October 2013, Holland updated his superiors on a meeting he had in the office of Patrice Douglas, then one of the three elected members of the Oklahoma Corporation Commission, which regulates the state's oil and gas companies. Also at the meeting was Jack Stark, then-senior vice president for exploration at Continental and now its president. "The basic jist [*sic*] of the meeting is that Continental does not feel induced seismicity is an issue and they are nervous about any dialog about the subject," wrote Holland. He also wrote that Continental and Douglas were concerned about his participation in a joint statement he'd recently signed with the U.S. Geological Survey suggesting a link between quakes and the oil industry.

As Oklahoma has become the capital of American seismic activity, scientists, citizens, and some state lawmakers have been critical of state officials for their perceived slowness in drawing a connection between earthquakes and oil and gas activities, which account for 1 in 5 jobs in the state. Over the past couple of years, as research began to be published and many seismologists became convinced that earthquakes were being induced by wastewater disposal, the OGS remained on the fence. In early 2013 the academic journal *Geology* accepted a paper attributing a 5.6-magnitude quake that hit Oklahoma in 2011 to underground changes resulting from wastewater disposal wells. In March 2013, the OGS put out its own statement, attributing the quake to "natural causes." And in February 2014, three ▶


Hamm


Boren

FROM LEFT: STEVE MARCUS/REUTERS; TOM BRIGLIA/FEATURE PHOTO SERVICE/NEWSCOM

months after Holland's meeting with Hamm, the agency released a statement playing down the role of industry, saying the "majority, but not all, of the recent earthquakes appear to be the result of natural stresses."

"This is a conflict of interest that we never before could've imagined," says Jason Murphey, a Republican state representative from Logan County, which has been one of the most seismically active areas in the state over the past year. "When Boren facilitates that meeting, it sends a message to Austin Holland."

Even when earthquakes appeared strongly correlated to wastewater injection, the OGS has been reluctant to discuss a connection. In September 2013 a new disposal well was turned on in Love County, in southern Oklahoma. Soon quakes began to jolt the area, sometimes several a day.

The well reached its peak daily injection of more than 9,000 barrels of wastewater on Sept. 20, 2013. Three days later the area experienced a 3.4-magnitude quake, moving furniture inside homes and knocking down a chimney. Injection at the well was curtailed, then stopped altogether. The seismic activity dipped almost immediately.

Still, the OGS hesitated to link the two. "We cannot rule out that this observation could be simply a coincidence," Holland wrote in a report a week later. In early October he spoke at a town hall meeting in Love County, where he again said no conclusions could be drawn about the cause of the quakes.

Many residents were frustrated by the lack of answers. But ExxonMobil geologist Michael Sweatt wrote in an e-mail to Holland: "I would like to congratulate you on a job well done at the Town Hall meeting in Love County. I believe you delivered an unbiased report on the recent earthquake activity and answered the residents' questions the best you could."

Today, as the number of earthquakes continues to soar, Holland has evolved in his position. He recently told Bloomberg that the vast majority of the increase in earthquakes is due to the injection of oil and gas wastewater. Yet he bristles at any suggestion that industry pressure slowed him in reaching that conclusion. Oklahoma has naturally occurring earthquakes, he says, and there have been large spikes of natural earthquakes in the past where no oil and gas development was occurring. It was proper, Holland says, to start with the hypothesis that the quakes weren't man-made. "Science doesn't operate in beliefs," he says. "It operates in demonstrable facts." *—Ben Elgin and Matthew Philips*

The bottom line Oil executives may have tried to influence state seismologists in Oklahoma, where 1 in 5 jobs is oil- and gas-related.

[redacted]

Television

Nickelodeon Bets on K-pop to Revive Ratings

▶ The kids' network is creating a Korean music-inspired series

▶ "Our thinking is to reflect the world kids are living in"

Louriza Tronco, Megan Lee, and Erika Tham bound onstage at a warmup party before the Nickelodeon Kids' Choice Awards wearing shiny black and gold outfits and splashes of pink or red in their hair. They strut and wave and belt out two songs, *Light It Up* and *Party Tonight*, from their upcoming show *Make It Pop*. "This is a dream come true for us," Tronco says from the stage.

If the **Viacom** kids' channel has its way, the three will be Nickelodeon's newest stars—in what could be one of its most ethnically diverse hits. *Make It Pop*, which premieres on April 6, is the first mainstream U.S. series inspired by K-pop, the fast-growing South Korean pop music genre. The actresses, chosen in a global casting call, are of Chinese-Dutch, Filipino, and Korean descent.

The show is part of the industry's attempt to lift ratings by making programs that mirror viewer diversity. "Our thinking is to reflect the world kids are living in," says Russell Hicks, Nickelodeon's president for content development. Networks, though, risk offending the very people they want to please. **ABC** saw that this season with *Fresh Off the Boat*, a comedy about Taiwanese immigrants. Eddie Huang, the chef on whose memoir it's based, said he felt they watered down his story.

Some K-pop fans have gone online to demand *Make It Pop* be canceled before it's even aired—they feel the show trivializes the art form. "People are just very protective of their artists and the genre in general," says Annie Lim, a senior editor at Allkpop.com, a U.S. K-pop site with 7 million monthly visitors.

K-pop began in the 1990s with a handful of Seoul-based record companies, including **S.M. Entertainment** and **YG Entertainment**, that groom and manage acts that typically feature attractive young men and women, often in groups, wearing brightly colored clothing. Their music, infectious dance pop, is promoted in online videos with carefully choreographed routines that fans often re-create at home. Songs in Chinese, English, and Japanese, as well as Korean, appeal to a global audience.

The genre went mainstream, thanks to the Korean rapper Psy, whose 2012 hit *Gangnam Style* was the first YouTube video to crack a billion views. Last year two K-pop bands, EXO and 2NE1, were among the 10 best-selling world-music acts, according to *Billboard*. K-pop YouTube views topped 7.6 billion last year, up from 700 million in 2010.

Nickelodeon's ratings have fallen as

Tronco, Lee, and Tham play roommates who form a musical group

kids move to social media and online videos. Its ad revenue fell 7 percent, to $968 million last year, according to data from SNL Kagan. Viacom, whose stock has fallen 19 percent in the past year, has cut staff to boost profits.

The *Glee*-like *Make It Pop* follows three prep school roommates who form a musical group as they try out for a school production of *The Wizard of Oz*. They share wardrobe advice, practice dance moves, and deal with parental concerns that they go to a good college.

In November an audition script for the show popped up online. Sample dialogue: "My father will not accept me in a K-pop band. He'd take me back to Korea before he thought there was even a chance I was wasting my potential here." K-pop purists lit into the network on social media, accusing it of promoting stereotypes, not reflecting K-pop artists' hard work, and not being funny. Ananya Nair, a fan in Coventry, England, urged Nickelodeon to cancel the show in a Change.org petition that gathered more than 9,100 signatures. "There are already enough people who are ignorant about Korean culture, we don't need more," she wrote.

Nickelodeon leapt into damage control mode, flying K-pop bloggers and writers from teen publications such as *Tiger Beat* and *J-14* to the Toronto set to meet the stars, who assured them that *Make It Pop* wants to pay homage to the genre, not exploit it. "K-pop has many elements. We come from different worlds, but with the love of music we come together," says Lee, 19, who grew up in Los Angeles. She trained as a singer, actor, and dancer for three years in South Korea, where she released a single, *8dayz*, last year.

Rather than one episode per week, Nickelodeon will air a new *Make It Pop* every day for 20 days. Fans can watch the daily broadcast on TV or see episodes on the network's app or website.

Darcy Bowe, a media buyer at Starcom USA in Chicago, says advertisers will support *Make It Pop*, even with the controversy. "School, music, fashion, friendships," she says. "This really is the sweet spot of where younger girls' interests are." —*Christopher Palmeri*

The bottom line Nickelodeon's advertising revenue fell 7 percent last year. It's hoping to get a boost from a show featuring K-pop.

Edited by James E. Ellis and Dimitra Kessenides
Bloomberg.com

FROM LEFT: STEPHEN SCOTT/NICKELODEON; KEVIN MAZUR/GETTY IMAGES

Briefs

By Kyle Stock

Look Sharp!

Yoox, an Italian e-retailer, agreed to buy *Net-a-Porter*, a growing e-commerce platform owned by Swiss luxe group Cie Financiere Richemont. The all-stock deal buttresses both companies as Web giants such as Amazon.com and Alibaba try to sell more luxury brands and famous fashion houses upgrade their own cyberstores. The combined business will be valued at $2.8 billion when the deal closes in September. *Volvo* said it will spend $500 million to build its first U.S. factory as it keeps trying to halt a sales swoon in North America. The Swedish brand, owned by China's Zhejiang Geely Holdings, said it would select a plant site in the next two months and start production there in 2018. *Yuengling* has replaced Samuel Adams brewer *Boston Beer* as the top U.S. craft beer, according to the Brewers Association. A change in the association's definition of craft brew last year made Pottsville (Pa.)-based Yuengling eligible. It hadn't been because it used such ingredients as corn and rice, which were restricted for a craft designation. *IBM* will invest $3 billion over the next four years in an "Internet of Things" unit that will help its partners, such as broadcaster *Weather Company*, gather and analyze troves of data collected from cars, jets, weather stations, and smart appliances. The move pits IBM more directly against software giants including Microsoft and industrial titans such as General Electric. *Simon Property Group*, the largest U.S. mall operator, withdrew its offer to buy *Macerich*. Simon Property had raised its bid by about $800 million, to $16.8 billion, but Macerich, the No. 3 mall operator in the U.S., said the price was still too low.

Amazon.com unveiled a series of branded instant ordering devices customers can use to buy selected products. The adhesive-backed push-buttons sync via Wi-Fi to the company's mobile shopping app.

$1

The premium above the local minimum wage **McDonald's** will pay more than 90,000 employees at company-owned stores in the U.S. beginning on July 1. They'll also start accruing paid time off.

CEO Wisdom

"We need to write the story ourselves."

Rapper and entrepreneur **Jay Z**, explaining the relaunch of Tidal, a streaming music service he bought in January for $56 million

Better Call Brent

▶ A conservative lawyer cooks up a new strategy for putting the squeeze on unions

▶ "At first, I was like, 'Well, come on, if this was doable, surely other people would have done it by now'"

Last year, the Democrats who control the Kentucky House of Representatives killed a Republican proposal that would have made it illegal for unions to charge workers at private companies mandatory fees—in other words, to run union shops. One of the bill's sponsors, Representative Jim DeCesare, assumed his option was to try again in the next General Assembly session. Then, at an October fundraiser for Senator Rand Paul in Bowling Green, DeCesare heard about a Tampa lawyer named Brent Yessin. He argues that counties and cities have the right to make labor policy, too. "Obviously," DeCesare says, "we were extremely interested."

In 1965, Kentucky's highest court ruled that the town of Shelbyville couldn't outlaw union shop contracts because the 1935 National Labor Relations Act preempts local labor laws. In 1990 a similar law passed by a New Mexico city was overturned by a federal district court for much the same reason. Letting local governments diverge on labor policy, says University of Toledo law professor Joseph Slater, "would certainly be a change in the way the law has always been interpreted."

Yessin, who's represented companies in more than 200 conflicts with unions, says those interpretations have been wrong all along. In his view, the NLRA—which was intended to standardize labor laws across the country—doesn't block states from letting local officials regulate some union activities. Even if it did, he argues, Congress doesn't have the power to take that authority away from cities and counties. "States never lost the ability to pass their own regulatory schemes regarding forced union dues," he says. "It's not up to Congress to tell them how to utilize it."

Yessin's ideas offer conservatives a path forward on anti-union legislation known as "right-to-work" laws. In March, Wisconsin became the 25th state to outlaw compulsory union fees. Ohio, where voters defeated curbs on public-sector unions in a 2011 referendum, is the only Republican-controlled state that hasn't banned union shops. In the other 24 states, including Kentucky, Democrats have stalled the spread of right-to-work legislation. "Local jurisdictions throughout the commonwealth are fed up with waiting for a state or federal law that will provide them with the safety net from big labor they need," Paul and his fellow Kentucky senator, Majority Leader Mitch McConnell, wrote in a Feb. 8 op-ed for the Bowling Green *Daily News*.

In November, after Republicans failed to win a majority in the state house,

Getting ready for immigration reform—if it comes 26

A Bill: A consistent standard on chemicals 27

DeCesare and Mike Buchanon, the elected administrator of Warren County, invited Yessin to Bowling Green. At a meeting at Buchanon's office, Yessin offered to represent the county for free. (He's established a nonprofit, Protect My Check, to solicit donations to cover his costs.) "He was experienced and knew what he was doing," Buchanon says. "The fact that he offered to provide the legal assistance, totally limiting the risk for the county, made it a much easier decision." Since December, Warren and 11 other Kentucky counties have passed right-to-work measures. In January, the United Auto Workers and other unions sued in a Louisville federal court. Yessin is "basically putting his nefarious talents to work that he's employed in busting unions to promote this," says Kentucky AFL-CIO President Bill Londrigan.

Yessin, 51, grew up in Kentucky. He says his father worked one summer at a mine before going to college and didn't like having dues deducted from his pay to cover such expenses as sending flowers to workers' funerals. His mother crossed picket lines during a teachers' strike. "I always tell my clients, 'Yeah, my mother was a scab,'" he says. As a teenager he worked in Washington for the Democratic Senatorial Campaign Committee, where a fellow staffer made fun of him for being too conservative. "So I went to work for Reagan," he says, serving as a precinct captain in the 1980 election. In 1988, after graduating from Vanderbilt Law School, he joined a firm in Louisville. Two years later he took a leave to work on a congressional campaign for Al Brown, a Republican lawyer who specialized in battling unions. After Brown lost, he asked Yessin to join him. "He came by and asked, 'How much do they pay you at this fancy law firm?'" Yessin says. "'You can make that in three months with me.'"

Yessin, who moved to Florida in 1995, specializes in representing hospitals in labor disputes but has also represented trucking companies and kitty-litter manufacturers, he says. In 2007 nurses involved in a New Jersey union-organizing campaign testified that Yessin followed them through a hospital hallway asking questions. According to one, he said, "I think I will go on a hospital tour with you girls and see what you are doing tonight." A National Labor Relations Board judge found the nurses' testimony credible. Another NLRB judge sided with nurses who said Yessin was "following, monitoring, escorting, berating, yelling at, and questioning" them during a 2006 California labor dispute. Yessin denies wrongdoing. "The general rule at the NLRB is that the union witnesses are credible," he says. Jane McAlevey, a former executive director of Nevada's Service Employees International Union chapter, dealt with Yessin during a 2006 campaign against her union at a Las Vegas hospital. "I've never had an experience like Brent Yessin in my life," she says. "It was relentless, it was daily, it was full-time, and it was profoundly intimidating." Yessin responds, "I don't mind running the tough press."

Yessin says he came up with the idea of pushing counties to pass anti-union legislation in 2013. He circulated it among fellow attorneys before approaching James Sherk, a research fellow at the Heritage Foundation, the conservative think tank, last year. "At first, I was like, 'Well, come on, if this was doable, surely other people would have done it by now,'" Sherk says. "But he piqued my interest." In August, Heritage released a paper, co-authored by Sherk, arguing that local governments could and should pass laws limiting union power. "Brent really is an innovator in this realm," says Jon Russell, who directs the American City County Exchange, an arm of the American Legislative Exchange Council that focuses on local policy. According to Yessin, officials in Illinois, Missouri, Montana, Ohio, Pennsylvania, Washington, and West Virginia are considering measures limiting unions.

Union leaders say they're not concerned. "Anyone who makes a fair and objective evaluation of the state of the law and what the statute actually says is going to conclude that these ordinances are ultimately going to be preempted," says Craig Becker, a former member of the NLRB who is now general counsel for the AFL-CIO.

"The fact that he offered to provide the legal assistance, totally limiting the risk for the county, made it a much easier decision." —*Mike Buchanon*

Some anti-union activists have come out in opposition to Yessin's strategy, too. In February, Mark Mix, president of the National Right to Work Committee, said in a speech at the Leadership Institute, which trains conservative activists, that focusing on local government would take the heat off state legislators. "In Kentucky, it is now being used as a reason not to vote on a state right-to-work law," Mix said. Yessin says he's "mystified" by that criticism. "The Right to Work Committee has one play, and they run that play all the time," Yessin says. "We believe there are a lot of paths to the goal line, and it doesn't have to all be one play." —*Josh Eidelson*

The bottom line Conservatives are embracing a local strategy for busting unions where Democrats control state government.

Privacy

RadioShack Sold Its Stores. Can It Sell You?

▶ **States are challenging the chain's plan to auction customer data**

▶ **"RadioShack gave customers explicit assurances"**

When **RadioShack** announced the auction of its assets as part of its bankruptcy proceedings, it offered bidders the chance to snap up the company's trademarks, patents, and store leases. RadioShack's customers also found themselves advertised for sale. Like many retailers, the company asked for phone numbers and e-mail addresses from people who stopped in for batteries and coaxial cables. According to a solicitation posted by **Hilco Streambank**, an intellectual-property advisory firm acting as an agent for RadioShack, the company was offering more than 13 million e-mail addresses and 65 million home addresses.

On March 31 a bankruptcy judge in Wilmington, Del., approved the sale of about 1,700 out of more than 4,000 RadioShack stores to **Standard General**, the chain's biggest shareholder. But the fate of RadioShack's customer data, which the court ▶

PHOTOGRAPH BY TRISTAN WHEELOCK FOR BLOOMBERG BUSINESSWEEK

◀ hived off from the company's other assets, remains unsettled. It may be offered in a separate auction along with RadioShack's other intellectual property—if the court lets the company sell it at all.

On March 20, Texas Attorney General Ken Paxton filed an objection with the court opposing the transaction. He's been joined by attorneys representing 31 states and the District of Columbia. The problem, according to the state attorneys, is that RadioShack promised customers it wouldn't make their personal information available to anyone else. In his filing, Paxton cited signs RadioShack displayed in its stores: "We pride ourselves on not selling our private mailing list." State law in Texas prohibits companies from selling personal information in a way that violates their own privacy policies.

Paxton claims that as many as 117 million people are on RadioShack's lists. "RadioShack gave customers explicit assurances it would not sell their personal information, and that company's attempts to sell this data would not only be a direct violation of the terms of its own privacy policies, but also a clear violation of Texas law," Paxton said in a statement.

In 2000, after Toysmart.com filed for bankruptcy, the online toy store tried to sell its customer data, which proved to be its most valuable asset. The Federal Trade Commission sued to stop the sale, citing the company's privacy policy, which promised not to share information with third parties. The FTC found Toysmart's data sale especially egregious because much of the information belonged to children. "Even failing dot-coms must abide by their promise to protect the privacy rights of their customers," Robert Pitofsky, then FTC chairman, said in a statement at the time. In a settlement with the FTC, Toysmart agreed to destroy the data.

What distinguishes RadioShack is its ubiquity. The chain boasted that 95 percent of Americans live within 5 minutes of a store. RadioShack's deals to sell cell phone contracts for wireless carriers has prompted a separate challenge from **AT&T**, which wants RadioShack to destroy lists containing data on AT&T's customers. The company argues RadioShack doesn't own the information.

Lisa Sotto, a lawyer specializing in privacy, says RadioShack wouldn't have faced any trouble if it had used some forethought when it designed its privacy policy years ago. "There is an easy fix—consider the possibility of bankruptcy at the start when crafting a privacy policy," she says. "It is foolhardy not to do so." —*Joshua Brustein*

The bottom line RadioShack told customers it wouldn't sell their information, but now it wants to, as part of its bankruptcy.

Executive Action

Keeping Immigration Reform Alive

▶ Activists prepare as courts consider challenges to Obama's proposal

▶ "We gotta follow through with this work, we can't abandon it now"

In mid-March, Daniel Jimenez traveled to Hanford, Calif., to talk to farm workers about the Obama administration's program for giving as many as 5 million undocumented immigrants protection from deportation. After waiting an hour past the scheduled 6 p.m. start, he began **his presentation** in front of eight tomato pickers and pistachio planters—and a dozen empty chairs. A few more people trickled in as he spoke.

Jimenez is one of five outreach workers employed by the UFW Foundation, the immigrant-services arm of the United Farm Workers of America. He's part of a nationwide push by liberal advocacy groups to get as many people as possible to sign up for the administration's program, which would give work permits and Social Security numbers to undocumented immigrants. The goal is to make it politically impossible for the next administration to discontinue the program, even if Democrats lose the White House in 2016. "The more people that sign up before a Republican president would take office, the harder it will be for that Republican to take it away," says Frank Sharry, executive director of America's Voice, a nonprofit that supports President Obama's proposed immigration reforms.

Obama announced his executive action on immigration in November after congressional Republicans blocked reform proposals that would have given undocumented adults a pathway to citizenship. One part of

Quoted

"With enough subsidies, you could get oranges to grow in Maine."

Matthew Mitchell, a senior research fellow at George Mason University's Mercatus Center, on states' efforts to attract film companies with tax breaks

FROM TOP: PATRICK FALLON/BLOOMBERG; PHOTO ILLUSTRATION BY 731; GETTY IMAGES (2)

Obama's program, which was supposed to go into effect Feb. 18, expands deportation protections for people brought to the U.S. as children. The second part of Obama's plan, which shields the undocumented parents of U.S.-born children from deportation, was supposed to begin in May.

In February, a federal judge in Texas granted a temporary injunction stopping the program from taking effect after 26 states sued to block it. On April 17 a federal appeals court in New Orleans will hear arguments on whether the program can go ahead before the lawsuit, which may reach the U.S. Supreme Court, is resolved.

Shortly after the Texas ruling, Obama met with labor leaders and pro-immigration activists at the White House and asked them to keep up their efforts to promote it to immigrants. "He spent an hour and a half with us just talking through the importance of this—we gotta follow through with this work, we can't abandon it now," says Arturo Rodriguez, president of the UFW. He says the White House has remained in frequent contact.

Immigration attorneys in Florida are training day-care workers to identify parents who might apply. Catholic Charities of Dallas assigns case managers to do weeknight outreach at churches, urging people who may qualify to gather tax filings, bank statements, and other documents they'll need. Michigan United, a coalition of churches, labor, and community organizations, is translating brochures into Arabic.

Dan Stein, president of the Federation for American Immigration Reform, a Washington group opposed to Obama's immigration proposal, says it's unethical to promote the program while courts consider the issue. "What is the plan?" he asks. "To go back to everybody and tell them, 'Oh sorry, we were wrong. It didn't happen?' "

Some who showed up for the UFW Foundation meetings in California seemed undaunted. Erica Montoya, 32, attended another session in Hanford with two people. "We have to think in this moment, not the future moment," she says. —*Esmé E. Deprez*

The bottom line Activists want to make it hard for Republicans to reverse Obama's immigration plan.

Edited by Allison Hoffman
Bloomberg.com

A Bill

By Paul M. Barrett

Making Chemicals Safer

S. 697 The Frank R. Lautenberg Chemical Safety for the 21st Century Act

The Essentials

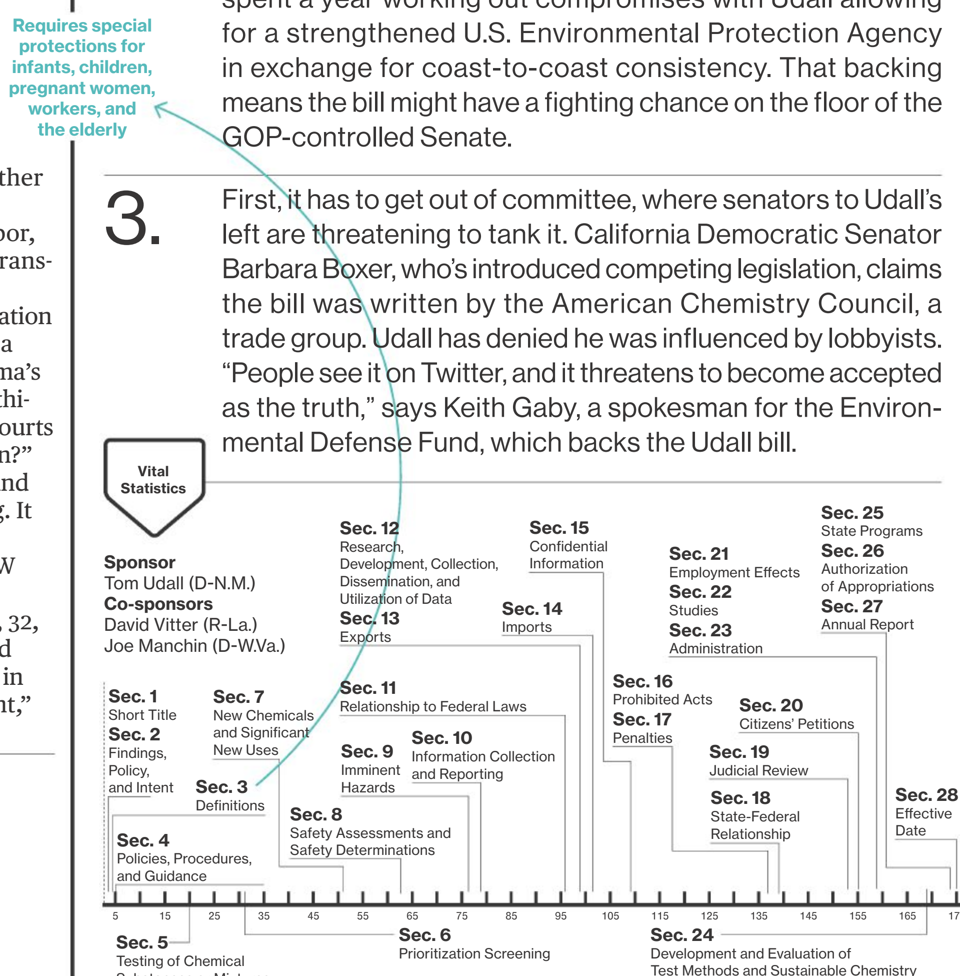
1. On March 10, Democratic Senator Tom Udall introduced a bill to reform the nation's 40-year-old Toxic Substances Control Act, which has a loophole allowing thousands of untested chemicals, including some known health hazards, to remain in common products. Republican opposition has doomed efforts to fix the old law. California and other states have stepped in and passed their own regulations, leading to a patchwork of standards across the country.

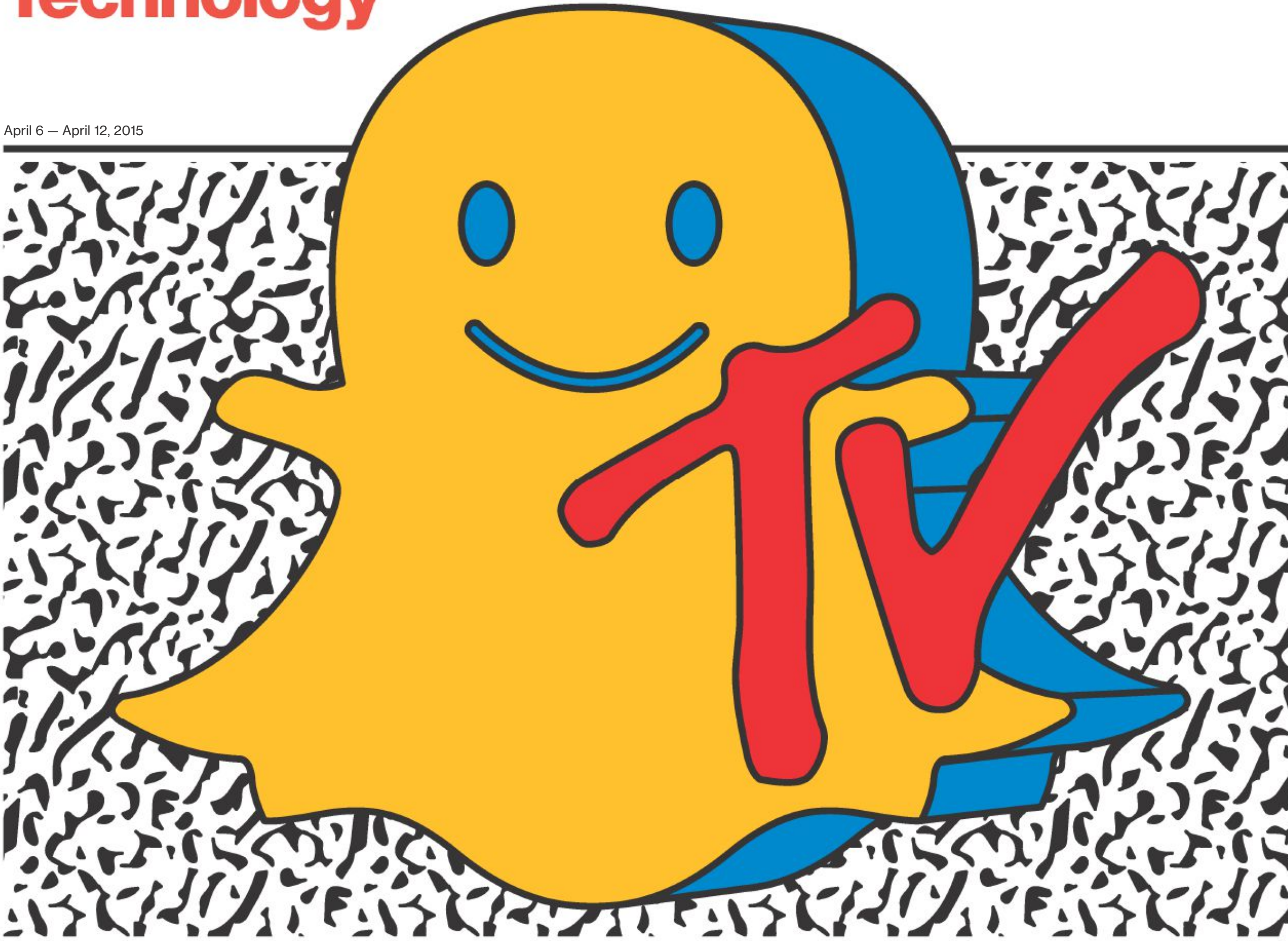
2. A bipartisan consensus in favor of the bill seems to be forming in the Senate as Republicans embrace industry's desire for a uniform federal standard. Republican Senator David Vitter spent a year working out compromises with Udall allowing for a strengthened U.S. Environmental Protection Agency in exchange for coast-to-coast consistency. That backing means the bill might have a fighting chance on the floor of the GOP-controlled Senate.

3. First, it has to get out of committee, where senators to Udall's left are threatening to tank it. California Democratic Senator Barbara Boxer, who's introduced competing legislation, claims the bill was written by the American Chemistry Council, a trade group. Udall has denied he was influenced by lobbyists. "People see it on Twitter, and it threatens to become accepted as the truth," says Keith Gaby, a spokesman for the Environmental Defense Fund, which backs the Udall bill.

Vital Statistics

Sponsor
Tom Udall (D-N.M.)
Co-sponsors
David Vitter (R-La.)
Joe Manchin (D-W.Va.)





► **Snapchat's Discover feature is giving advertisers millions of video views and a familiar model**

► **"The burden is even greater on us to make sure that what we're doing is interesting"**

Five days before the March 25 broadcast premiere of *Big Time in Hollywood, FL*, a new **Comedy Central** show produced by actor Ben Stiller, the network released its first episode on **Snapchat**. In January the messaging app, known mostly for letting its young users share annotated photos that vanish shortly afterward, added a "Discover" feature, a menu of free channels from 11 media companies that publish video clips and news stories directly to Snapchat. Two people who work for Snapchat's channel partners say their daily video clips and written stories average more than 1 million viewers; they declined to discuss specific viewership numbers or revenue. *Big Time* won't be Comedy Central's last Snapchat premiere, says Senior Vice President Steve Grimes.

In November 2013, Snapchat Chief Executive Officer Evan Spiegel was widely mocked for rejecting a $3 billion buyout offer from Facebook. Snapchat had just completed a round of funding that valued it at half that, and it had no revenue. Although it has an obsessive young audience coveted by advertisers that now totals more than 100 million, the app's main content is uniquely ephemeral, and the company says it doesn't track user behavior in the ways most social networks do to sell ads. So even as Snapchat's valuation rose to $10 billion in August 2014, the company remained largely quiet about how it planned to make money.

The Discover feature's 11 channels, including those from **CNN**, **ESPN**, the **Food Network**, *National Geographic*, *People*, and *Vice*, alongside Comedy Central, produce their own videos and their own print stories. They also sell their own ads, giving Snapchat an undisclosed cut of the revenue. The collection of companies looks a lot like a basic cable package, except that it carries mostly short video clips. (Viewers can opt to watch full segments or shows.) Snapchat's youthful audience helps the companies running Discover channels charge advertisers about $100 per 1,000 views, about twice the ad rates of **YouTube** and **Hulu**, say three people familiar with the app's viewer data, who weren't authorized to discuss the issue.

According to Cowen, an investment research firm, 71 percent of Americans aged 18 to 29 use Snapchat, which has a modest audience outside the U.S. The app "got inserted into the conversation faster than anyone expected," says Comedy Central's Grimes, ranking its importance on the same level as Facebook, Twitter, and Instagram. "You have to have offerings for each of those platforms for the shows you do now." In March, **Alibaba** invested in Snapchat at a valuation of $15 billion.

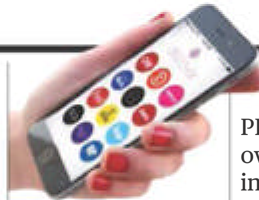
When you log in to Snapchat, two swipes to the right will bring up the main Discover screen, populated with media logos. Tap the one for Comedy Central, and you'll get a 10-second clip from an episode of *South Park* or *Key & Peele*,

FROM LEFT: ILLUSTRATION BY 731; YOUTUBE

played on a loop. Swipe right for another clip from the same channel, then another, then sit through an ad to get to the next, or swipe down for a longer related segment or episode. Channels for *People* or *Cosmopolitan* include animated story packages but are designed more to encourage a swipe down into a print story. "It's a really great opportunity for us to tap into a millennial audience," says Joe LaFalce, head of digital business development at *People*, adding that he's recently assigned four staffers to tailor stories for Snapchat, in part by putting a greater emphasis on younger stars. Producers for Comedy Central's popular late-night shows now stick around on nights after their shows wrap to select and format clips for the app.

Snapchat is also selling ads against feeds of short, nondisappearing videos from users, a feature called "Live" unveiled last summer. Some Live feeds have drawn more than 30 million viewers, say the three people familiar with Snapchat's viewership—about the same number of viewers that tuned in to the opening ceremony of last year's Winter Olympics. Even so, the clips from cable networks have proven more popular with major advertisers, from **Samsung** to **General Electric**. **McDonald's** bought out Comedy Central's Snapchat ad inventory when the channel launched in January; **BMW** did the same for CNN's.

The issue for advertisers is that they, too, have to tailor ads specifically for Snapchat and make sure the ads and affiliated channels hold viewers' attention, says Craig



Snapchat now offers video feeds from major media companies

Atkinson, chief digital officer at PHD, an ad agency owned by marketing giant Omnicom Group. Because Snapchat users have to actively choose to watch a channel, "the burden is even greater on us to make sure that what we're doing is interesting," says Atkinson, who tells advertisers to regard Snapchat spending as research and development.

Only so many advertisers are eager to experiment. Viewers can go days without seeing ads on the channels for the *Daily Mail* and **Warner Music**. CEO Spiegel is hunting for a head of sales but has lost several key executives in the last few months, including the head of ad partnerships and Chief Operating Officer Emily White, who helped pilot the ad model. Spiegel considered operations part of his daily purview and limited White's authority, says a person familiar with the matter who wasn't authorized to discuss it. Snapchat declined to comment. White didn't respond.

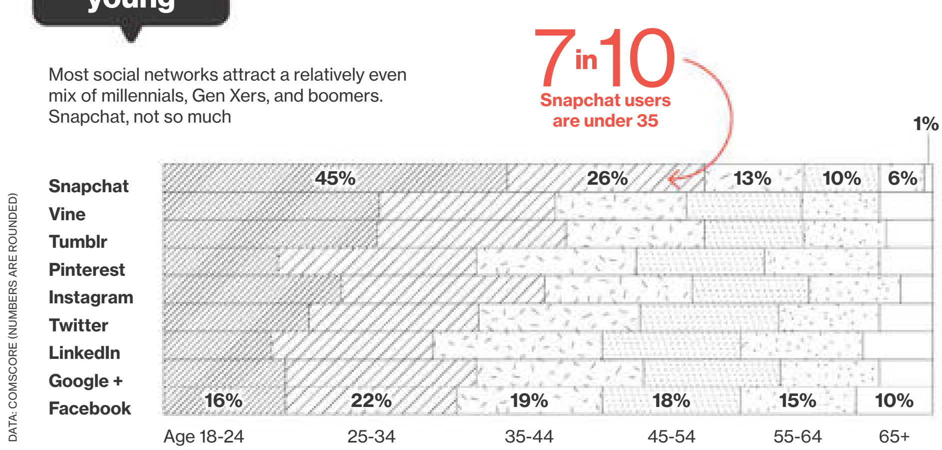
The company's biggest challenge may be to keep its fickle young users from migrating to the next hot messaging app, says Rebecca Lieb, an analyst at Altimeter Group. "Snapchat is a darling this year, but how about next year, when the novelty wears off?" she says. "It's not sustainable." Still, the six-year-old company's audience grew 62 percent in 2014, according to researcher ComScore. Grace Lee, a freshman at the University of North Carolina, says that if anything, the app is too ubiquitous in her circles. "I feel like I have to use it just to be in contact with people," she says. "You'll see people at a concert or with their friends at a party, and they're taking video for Snapchat the whole night."

Lee uses the app to communicate, not to watch TV clips. "People my age like it because it's so simple. Take picture, send it," she says. "The more complicated, the more stuff they add on, the less popular it will be." —*Sarah Frier and Lucas Shaw*

The bottom line Snapchat has created a video ad model that resembles TV and costs advertisers twice as much as Hulu or YouTube.

Snapchat skews young

Most social networks attract a relatively even mix of millennials, Gen Xers, and boomers. Snapchat, not so much



Startups

Seattle: Kurt Cobain, Coffee, Data Storage

▶ The city is luring money and talent from Silicon Valley

▶ "There's a lot of storage IP and … talent in the 206 area code"

When investors asked Kiran Bhageshpur whether his new tech startup meant he'd be moving back to Silicon Valley, he said no. Bhageshpur spent almost two decades in the Valley building business software before moving to Seattle, which he says has the ecosystem his latest venture needs. "This is the place with the upside," he says, gazing at the Space Needle through his office window.

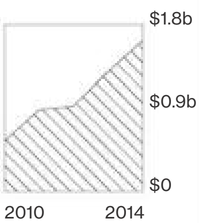
Bhageshpur's year-old company, **Igneous Systems**, is among a wave of startups setting up shop in Seattle to grab a piece of the $36 billion global market for data storage, an industry that includes both the raw boxes of hard drives a business buys to store data and the software needed to manage it. Although companies such as **Amazon.com** have revolutionized storage by letting companies and individuals rent cloud capacity, private storage is selling faster than ever to businesses that don't want to use another company's computers. Venture funding for such startups ▶

◀ has almost tripled in the last five years, to $1.6 billion, according to researcher CB Insights.

California remains the primary home for storage companies, but Washington state is fast becoming a hub. "There's a lot of storage IP and people with talent in the 206 area code," says Daniel Ives, an analyst at FBR Capital Markets.

Much of that intellectual property is housed within Isilon Systems, where Bhageshpur was once a senior director of engineering. Founded in Seattle in 2001, Isilon made its name with software and hardware designed to store and retrieve files such as large audio and video clips. Since **EMC**, the world's largest maker of storage hardware, bought the company for $2.3 billion in 2010, several Isilon executives have left to form rival startups, often with funding from Isilon cofounder and former Chief Executive Officer Sujal Patel, who departed in 2012. Storage companies based in the Valley are establishing offices in Seattle to attract industry specialists.

Storage Funding



Patel has contributed funding to Bhageshpur's company, Igneous, which has raised $26.6 million, and to **Qumulo**, founded by Peter Godman, Isilon's former director of software engineering. Qumulo, which raised $40 million in February, says its first software product will differentiate itself by better identifying which files are used most often and which are slowing system performance. Most of Qumulo's executives used to work at Isilon; its first 15 customers include **Sportvision**, the digital-effects shop that inserts yellow first-down lines into NFL broadcasts. Igneous hasn't said publicly what kinds of storage products it plans to sell.

Isilon's success is a bit of a cautionary tale for its offspring. Planning to start the company, Patel left the Seattle office of streaming-software maker RealNetworks in 2000 shortly after the dot-com bubble burst. But venture funding quickly dried up: Of almost 250 venture-backed storage companies founded at that time, fewer than a dozen were successful, he says, and some shut down without ever shipping a product. Most of the current crop of startups will likewise fail, Patel says. "Storage is a very hard thing to get right."

The money pouring into storage is leading more entrants to a field that already includes well-financed stars. San Jose-based **Nutanix**, which sells software that can turn big clumps of servers into cohesive storage centers, has raised $312 million from investors since its 2009 founding. **Pure Storage**, founded the same year in Mountain View, Calif., sells high-capacity memory that can speed up time-consuming storage processes; it's raised $536 million. Both companies opened offices in the Seattle area last year.

Isilon is part of the fastest-growing storage division at EMC, which declined to comment for this story. With hardware increasingly cheap and commoditized, storage startups like Qumulo that focus more on differentiating themselves through software have a chance to take business away from EMC and fellow giants **NetApp**, **Hewlett-Packard**, and **Dell**, says Ashish Nadkarni, an analyst for market researcher IDC. Ives, of FBR, says Wall Street is eager to invest in startups that seem able to outmaneuver the established companies. "The incumbents are in the right lane with their horse and buggy," he says. "In the left lane, you have a lot of Priuses." —*Dina Bass*

The bottom line Seattle is becoming a hub for the storage industry, which has seen venture funding triple, to $1.6 billion, in five years.

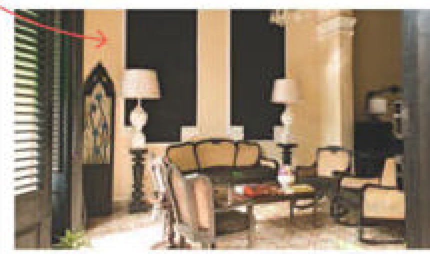
Quoted

"We are taking a very light touch, an almost hands-off approach."

Bakul Patel, the U.S. Food and Drug Administration's associate director for digital health, describing the FDA's attitude toward regulating wearable fitness gadgets such as the Apple Watch

Sharing Economy

Airbnb Drops in On Havana



This Havana room rents on Airbnb for $30 a night

COURTESY AIRBNB

▶ Working within federal limits, the lodgings site recruits Cuban hosts

▶ On the island, "the Airbnb style of travel was already thriving"

Airbnb operates in 190 countries and 34,000 cities around the world, but its latest addition could be a momentous one. The online lodgings marketplace said it planned to begin offering properties for rent in Cuba on April 2, becoming one of the first U.S. companies to establish itself there since President Obama and Cuban President Raúl Castro announced in December that they would restore diplomatic ties after more than 50 years.

Expanding an Internet service to Cuba means overcoming a host of challenges, including spotty Web access, limited payment options, and the still-ongoing U.S. embargo. So Airbnb is starting small: U.S. travelers can choose from about 1,000 listings throughout the country, mostly concentrated in Havana. The company says its model—stay in somebody's home, pay less than a hotel would charge—will help it facilitate travel that won't pave over Cuba's unique character, forged by decades of isolation from its northern neighbor. "Think about the big hotel chains coming in, with mass development," says Nathan Blecharczyk, Airbnb cofounder and chief technology officer.

"The idea here is to support growth in travel that isn't disruptive, that actually celebrates and preserves Cuba as a distinct destination."

The Cuban properties on the site, their photos sprinkled with glimpses of the nation's famously ancient cars, show off a broad range of colonial architecture and are available at extremely low rates. The Home Lunass offers a private room and bathroom a five-minute walk from Old Havana for $34 a night, including free breakfast. (Dinner costs extra.) Next to the double bed is an old cassette player. "Hello to my potential guests," writes the owner, who gives her name as Yamilee. She says she rents rooms to foreigners full-time and used to practice medicine.

Like other U.S. websites, Airbnb had been forced to block IP addresses that originate in Cuba, in accordance with federal law. On Jan. 20, when the U.S. relaxed restrictions on Cuban travel, Airbnb initiated talks with the U.S. Department of State and the Office of Foreign Assets Control, which enforces trade sanctions, to clear its expansion into the country. The government agencies didn't immediately respond to requests for comment.

In February and March, the company sent employees on trips to Cuba to meet with potential hosts and learn more about the existing network of *casas particulares*. That's the local term for vacation rentals by homeowners like Yamilee who have long done business with tourists from countries such as Canada and Spain, typically relying on word of mouth and, sometimes, a borrowed Internet connection from a local business. In Cuba, "the Airbnb style of travel was already thriving," says Molly Turner, the company's head of civic partnerships.

Only about 4 percent of Cuban homes have Internet access of any kind, so Airbnb had to find local intermediaries to help manage listings and connect hosts with customers. That led to the problem of paying hosts, most of whom asked for cash. That's not how Airbnb works; travelers pay online, and the site takes a 3 percent cut and transfers the rest to a host's bank account. So Airbnb had to contract a licensed money remitter to make payments on its behalf. The company chose Florida-based **VaCuba**, which specializes in sending cash and gifts to families in Cuba. "What Airbnb has done is quite creative," says Collin Laverty, founder of Cuba Educational Travel, which organizes U.S. exchange programs. " 'Cuba' is really a dirty word in the banking world."

As Airbnb tries to expand its Cuban network, it's likely to find some hosts unaccustomed to American travel standards—among other things, many homes don't have hot water. The company also remains limited by U.S. laws. It can't show Cuban properties to users outside the U.S. or directly help Cuban hosts design ads for their rentals. And although the U.S. has relaxed travel requirements for people visiting Cuba for reasons such as professional research, educational activities, and "support for the Cuban people," it still bans visits that are explicitly for tourism.

Airbnb's first step into Cuba is likely only the beginning, says Dan Restrepo, a former adviser to President Obama on Latin America and the Caribbean who has consulted for Airbnb on its Cuba expansion: "So little has happened between the U.S. and Cuba for so long, I don't think anyone really knows how this will develop." But, he says, "this creates connectivity between two peoples in a way that is outside the reach of government on both sides." *—Brad Stone*

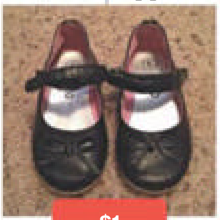
The bottom line American visitors can now select from 1,000 Cuban listings on Airbnb, the first big U.S. travel brand to expand there.

Apps

A Virtual Garage Sale Takes on Craigslist

- **Startup VarageSale's service is built for mobile**
- **"There's an engagement here which is unprecedented"**

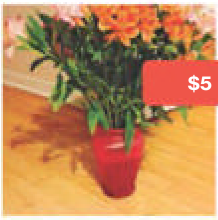
Every Sunday at 4 p.m. about 300 cars gather in the parking lot of Clearview Mall in New Orleans. No one goes inside to shop—they're meeting to exchange used clothes, furniture, and electronics being sold through an app called **VarageSale**. "This is pretty much my job now," says Hope Thibodeaux, a 32-year-old mom who volunteered to help organize the weekly meetups. She's bought and sold a steady stream of



baby clothes and other items using the app. With the profit, she says, "I'm able to supplement our income enough to make it feasible for me to stay at home with my son."

VarageSale is one of a few startups taking up a difficult mission: unseating **Craigslist** as king of local e-commerce. Craigslist's 30 employees run online bulletin boards in more than 700 cities in 70 countries, offering a ton of stuff for sale. The site, which doesn't charge fees for most transactions, looks like it hasn't had a fresh coat of paint since the mid-1990s, when programmer Craig Newmark created it in San Francisco. It doesn't incorporate social media services, and most listings on its mobile version are cut off and tough to read. Craigslist declined to comment for this story.

Tami Zuckerman was frustrated with Craigslist and other local marketplace sites when she started VarageSale three years ago in Montreal. A former kindergarten teacher, she was pregnant with her son, Noah, and spending a lot of time at home, nauseous and obsessed with clearing out the house to make room for the baby. She asked husband Carl Mercier, who sold an antispam company to security-software maker Websense in 2009, to help her construct an app that would let her sell the junk easily from her phone. "When we started, it was almost like a toy," she says of the site, whose name is a portmanteau of "virtual garage sale." "We never intended it to become a business."



The app lets people connect through their **Facebook** profiles, and it conscripts volunteer moderators to approve new members. Members list anything they want on the site and attach an asking price, then others leave comments, haggle, or declare their intent to purchase. While VarageSale is somewhat rudimentary—there's no online payment tool ▶

COURTESY VARAGESALE (4)

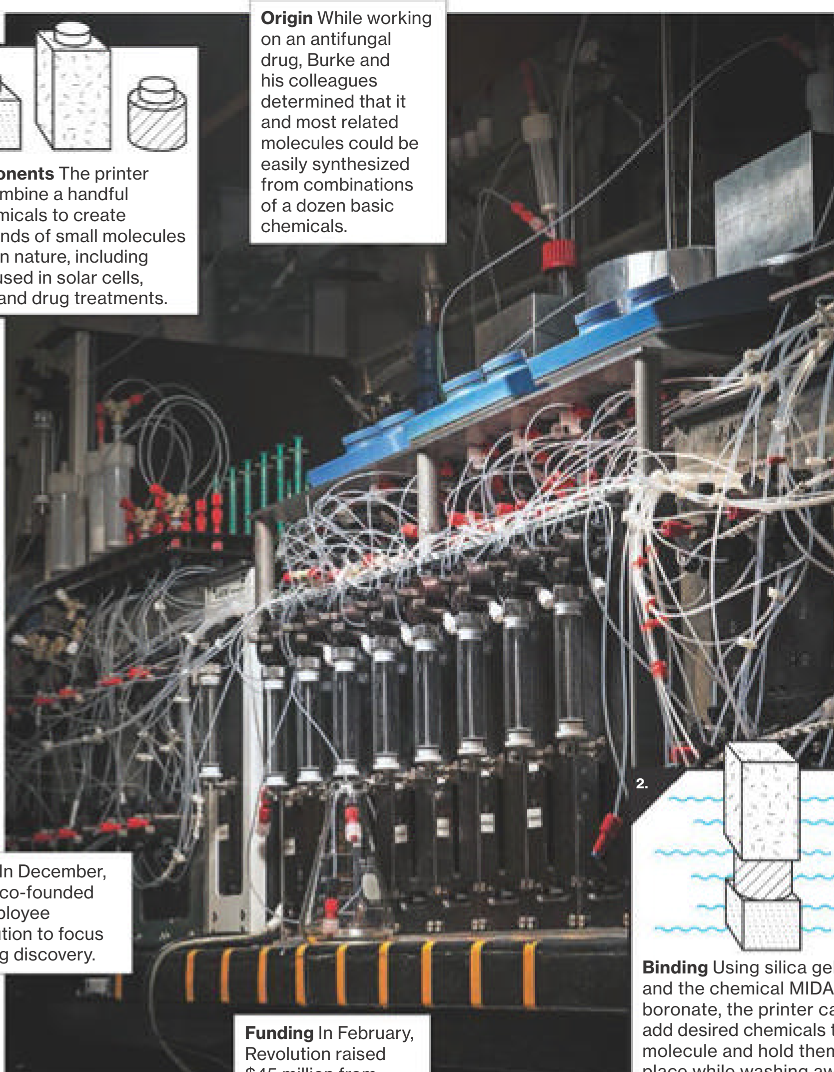
Innovation

Molecular Printer

"For a very long time, about 200 years, chemistry approached each molecule as a unique problem"

Form and function
An experimental 3D printer lets scientists automate the creation of a wide range of complex small molecules instead of fashioning them one at a time, streamlining the search for new medicines.

Innovator Marty Burke
Age 39
Co-founder of startup Revolution Medicines and a professor at the University of Illinois at Urbana-Champaign



1.

Components The printer can combine a handful of chemicals to create thousands of small molecules found in nature, including some used in solar cells, LEDs, and drug treatments.

Origin While working on an antifungal drug, Burke and his colleagues determined that it and most related molecules could be easily synthesized from combinations of a dozen basic chemicals.

2.

Binding Using silica gel and the chemical MIDA boronate, the printer can add desired chemicals to a molecule and hold them in place while washing away unwanted byproducts.

Scale In December, Burke co-founded 12-employee Revolution to focus on drug discovery.

Funding In February, Revolution raised $45 million from Third Rock Ventures.

Next Steps

Revolution, based in Redwood City, Calif., is refining the design of the printer built at the University of Illinois as it seeks treatments for life-threatening fungal infections. Peter Seeberger, director of the Max Planck Institute of Colloids and Interfaces in Germany, says that while there's still a way to go before the printer can make all kinds of molecules "like pearls on a string," its current capabilities mark "a big step forward" for medical research. —*John Tozzi*

◀ or purchase button, hence the parking lot cash—half the "millions" of members who use the app at least monthly check it once a day or more, Mercier says. A few months after their son's birth, when the haze of raising a newborn started to lift somewhat, he and his wife checked on the service and noticed the frequent-visit trend emerging. "That's when we realized we had something special," he says.

Over the past year the couple have expanded the service to cities in every Canadian province and 42 U.S. states. They've moved to Toronto, which has a bigger pool of software developers. In March the company raised $34 million from venture funds **Sequoia Capital** and **Lightspeed Venture Partners**. "There's an engagement here which is unprecedented in this category," says Bryan Schreier, a partner at Sequoia. "A bunch of little companies have tried this, and no one has come close."

OfferUp, another marketplace that, like VarageSale, focuses on tailoring its interface for smartphones, has raised more than $60 million from venture firm **Andreessen Horowitz**. (Bloomberg LP, which owns *Bloomberg Businessweek*, is an investor in Andreessen Horowitz.) **Nextdoor**, a San Francisco company designed to encourage online discussions among neighbors, says about 20 percent of its 7 million daily postings revolve around commerce. Even Facebook has become a repository for some classified ads posted on local group pages.

As long as Craigslist is free, it won't be easy even for another free service such as VarageSale to supplant it. Mercier and Zuckerman say that while they have some ideas about ways the app can make money, that isn't a priority yet. In New Orleans, Thibodeaux says she doesn't think people will keep using VarageSale if it starts charging transaction fees. She does, however, value the sense of community and mutual trust that the app helps foster at her local mall. "It just feels so much safer" and more user-friendly than other sites, she says. "I can't see myself going back to Craigslist."
—*Brad Stone*

The bottom line Startup VarageSale competes with Craigslist by focusing on mobile and has raised $34 million in venture funding.

Edited by Jeff Muskus
Bloomberg.com

COURTESY REVOLUTION MEDICINES (2); ILLUSTRATIONS BY 731

A half-dozen hedge funds are on track to start trading this year with at least

$1b

The Triumph of Hedge Funds Over Experience

From 2012 through 2014, the S&P 500 returned 18 percent a year, while hedge funds averaged

4.6%

▶ Managers starting their own funds draw billions from investors

▶ "If you can identify talent early," you may score big returns

Hedge fund investors don't know when to quit. Instead of abandoning an industry that's delivered subpar returns for years, they are writing checks to a handful of new funds hoping to find the next hot hand. At least six hedge fund firms are likely to start with $1 billion or more this year, according to data compiled by Bloomberg. Eight firms started with a 10-figure sum last year. The industry hasn't seen this many mega-startups since 2005, when 13 funds raised a combined $19 billion. "Most hedge funds aren't any good, but if you can identify talent early, when they are hungry, you have the potential to generate outsized performance," says Adam Blitz, chief investment officer at Evanston Capital Management, which invests $5.4 billion of its own and clients' money in hedge funds.

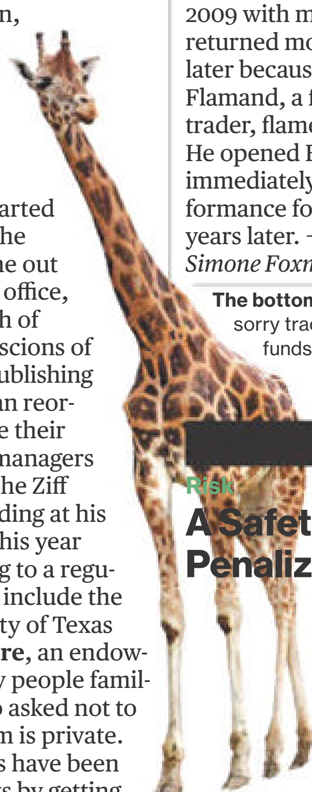
The billion-dollar babies are not unknowns. They tend to be seasoned professionals who proved themselves at larger firms, including **Brevan Howard Asset Management** veteran Chris Rokos and ex-**Elliott Management** star Didric Cederholm.

The new firms are benefiting from the poor performance of some established giants—such as John Paulson's **Paulson & Co.**, Carlyle Group's **Claren Road Asset Management**, and **Mason Capital Management**, which have either lost money or failed to make any over the last three years—and the generally sluggish returns for the industry. Hedge funds on average climbed 4.6 percent annually from the beginning of 2012 through 2014, according to Bloomberg data. That's far below the annualized 18 percent gain of the Standard & Poor's 500-stock index.

"The danger investors face is that many of the big funds fail to maintain the same investment discipline that they pursued when they were smaller funds," says Mike Silverman, CIO at Crow Holdings Capital, which invests in hedge funds. The California Public Employees' Retirement System, the nation's largest pension fund, said in September that it would no longer invest in hedge funds, citing their cost and complexity.

University of Texas Investment Management, which oversees money for the country's second-largest

university endowment, is one of the biggest backers of the startups. It already has about $2 billion invested with what it calls "next generation" firms "with the objective of sustaining top-decile performance for years to come," Bruce Zimmerman, the endowment's chief executive officer, wrote in an annual report published late last year. He didn't return calls seeking comment.



Three managers who started billion-dollar firms since the beginning of last year came out of the Ziff Brothers family office, which managed the wealth of Dirk, Robert, and Daniel, scions of William Ziff's magazine-publishing empire. The brothers began reorganizing how they manage their fortune after several key managers left. David Fear, who ran the Ziff London office, started trading at his **Thunderbird Partners** this year with $1.5 billion, according to a regulatory filing. His investors include the Ziff brothers, the University of Texas endowment, and **Investure**, an endowment money manager, say people familiar with Thunderbird who asked not to be named because the firm is private.

Managers starting funds have been able to raise large amounts by getting big commitments from a few investors. Isaac Corre is opening **Governors Lane** in the next few months to focus on event-driven investing, trying to exploit mergers, bankruptcies, spinoffs, and other corporate transitions. George Soros's family office is putting in as much as $500 million, say people familiar with the firm. Corre comes from **Eton Park Capital Management**, the hedge fund firm run by Eric Mindich, which was one of the biggest startups ever, with $3.5 billion out of the gate in 2004.

Some of the fledglings may be attracting money because they are leaving successful firms that limit new investments. Cederholm is starting **Lion Point Capital** this month, according to a filing with the Securities and Exchange Commission. He focused on fixed income and distressed investments at Elliott, which only periodically accepts new investments. Executives from the firms didn't return calls seeking comment or declined to comment.

Investors have flocked to new funds before, only to be disappointed. Arvind Raghunathan, former head of Deutsche Bank's global arbitrage business, started his Roc Capital Management in July 2009 with more than $1 billion. He returned money to investors four years later because of losses. Pierre-Henri Flamand, a former Goldman Sachs trader, flamed out even more quickly. He opened Edoma Partners in 2010, immediately raising $2 billion. Poor performance forced him to close shop two years later. *—Katherine Burton and Simone Foxman*

The bottom line Despite the industry's sorry track record, at least six hedge funds will start with $1 billion this year.

Risk

A Safety Rule That Penalizes Stable Banks

Short **Fruit** **Risky**

▶ **Wells Fargo would have to issue bonds to meet the guidelines**

▶ **"The rule is distorted because it favors large trading banks"**

Which institution seems more risky: a consumer-oriented bank that gets 70 percent of its funding from deposits, or a Wall Street trading house that relies on borrowing in the capital markets to fund its operations? In a crisis, credit markets can freeze, making it impossible for banks to borrow the money they need; deposits, most of which are federally insured, tend to stay put. Yet a new rule meant to make the global financial system safer could end up penalizing banks that rely on deposits while rewarding those with big securities trading businesses—the kind that led to the 2008 credit crisis.

The rule, proposed last year by the Financial Stability Board (FSB), the global group that coordinates banking policy for the world's biggest economies, would require banks to hold a minimum level of long-term debt. The rationale: In case of failure, regulators could cancel that debt and, in exchange, give the lenders equity in whatever new entity rises from the defunct bank's ashes, avoiding the need for a taxpayer bailout.

The problem with this approach is it requires banks that rely on deposits, such as **Wells Fargo**, to raise more money by issuing bonds—a more expensive source of funding than deposits. Banks with large securities businesses tend to rely on borrowing more than deposits. **Morgan Stanley** and **Goldman Sachs**, for example, already have twice as much debt as required, according to estimates by analysts at Citigroup and Keefe, Bruyette & Woods.

Wells Fargo said in a letter to the FSB in February that the debt requirement has no correlation to risk, pointing out that by various measures it's the safest of six big U.S. banks. "Those companies that fund most of their operations with debt are less impacted," says Wells Fargo Chief Executive Officer John Stumpf. "We fund substantially all of our balance sheet with retail funds. Wouldn't it be an oddity to have the most conservative funding and yet be asked to go raise more debt?"

The U.S. probably will be the first nation to adopt the FSB guidelines, which require the world's 30 largest banks to have capital and debt equal to 20 percent to 25 percent of their assets, adjusted for risk. The Federal Reserve is expected to propose its version of the rule as early as this month. Of the six biggest U.S. banks, only Wells Fargo would fall below the 20 percent threshold, say Citigroup and KBW, which estimate that banks that have to replace some deposits with debt could see profit decline 2 percent to 4 percent a year.

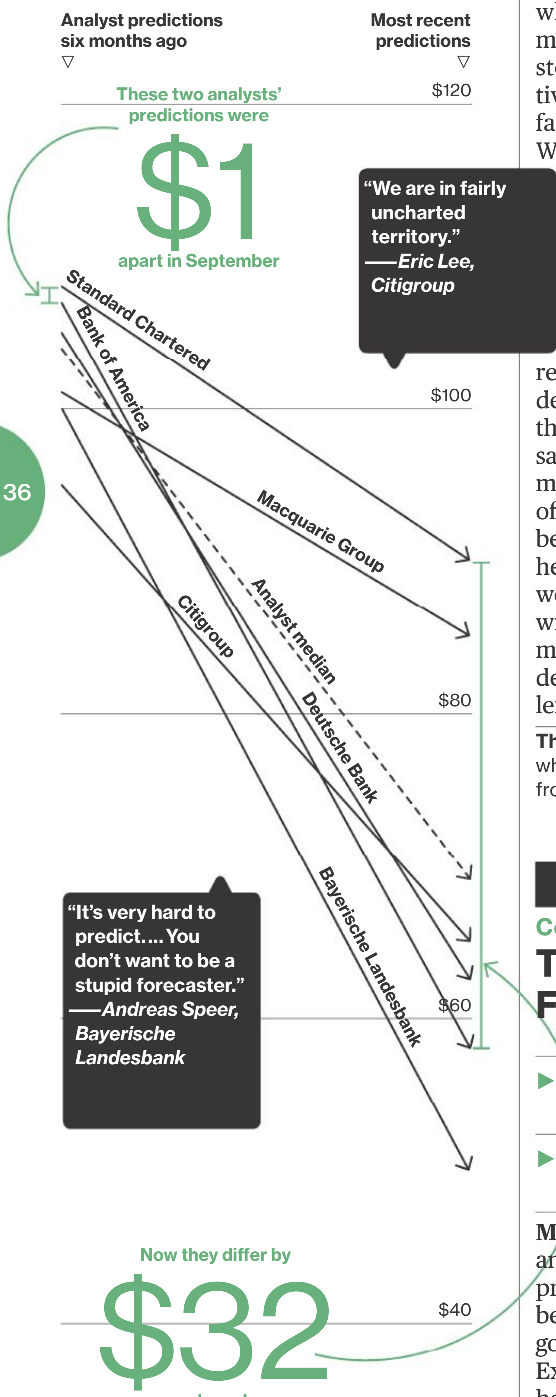
Under the FSB rule, Wells Fargo's burden would be twice that of Morgan Stanley's as a percentage of total assets, according to KBW estimates and bank regulatory filings. Trading accounts for 3 percent of revenue at Wells Fargo, which holds $5 trillion ▶

ALAMY (2)

Oil Anyone's Guess

The plunge in the price of oil has created chaos in the forecasting business. Energy analysts are more divided in their outlook than at any time in at least eight years. —*Robert Tuttle and Mark Shenk*

What will a barrel of Brent sell for in the fourth quarter?



in derivatives; it's about a third of revenue at Morgan Stanley, which has $39 trillion in derivatives.

The arcane art of risk-weighting penalizes conventional banks. Plain-vanilla lending, which accounts for much of Wells Fargo's business, gets a full weighting: Every $1 lent counts as $1 of risk-weighted assets. Investment banks are allowed to use their own mathematical models to calculate their risk-weighted assets. Yet those models, which are supposed to indicate how much money a bank could lose trading stocks, bonds, and complex derivatives, can be way off. **JPMorgan Chase** famously lost $6 billion in the London Whale fiasco. The losses stemmed from about $100 billion in holdings to which the bank had assigned zero risk for regulatory purposes, because in its models, opposing bets were supposed to cancel each other out.

It makes sense to require deposit-reliant banks to issue some debt so depositors don't end up being on the hook in the event of a failure, says Alberto Gallo, head of European macro credit research at Royal Bank of Scotland. Still, "the rule is distorted because it favors large trading banks," he says. "The problem is using risk-weighted assets.... The trading banks with a much more volatile business model will end up having half as much debt requirement as the more stable lending banks." —*Yalman Onaran*

The bottom line A new rule treats Wells Fargo, which gets 70 percent of the money it needs from deposits, as riskier than Morgan Stanley.

Commodities

Trading Floors Can't Feed Africa

- ▶ Exchanges aren't helping farmers as foreign backers hoped
- ▶ Ethiopia will "restrategize from the bottom up"

Mondelez International's February announcement that it would increase production of coffee from Ethiopian beans 50 percent in two years was good news for the Ethiopia Commodity Exchange, started in 2008 with the help of foreign donors to improve food

distribution in a country where millions often went hungry. By government decree, almost all buying and selling of coffee, sesame seeds, and navy beans for export must take place on the exchange.

The **ECX**, which got funding from the U.S. and the United Nations among others, is one of at least eight commodity exchanges started in sub-Saharan Africa over the past two decades with the aim of improving food security for local populations. Many have failed, and only South Africa's is thriving without government support. Exchanges are a distraction from other initiatives that would better serve poor farmers, says Nicholas Sitko, a Michigan State University agricultural economist who's based in Zambia, where a commodity exchange closed in 2012. "We've learned that no amount of money pumped into them and no amount of government effort to get them off the ground can force them to work," he says.

With its buyers and sellers in colored jackets and open-outcry trading floor displaying real-time market data from around the world, the ECX has been a prime example of what an exchange can and can't do. The government ordered export coffee trading onto the exchange shortly after it opened, hoping it would jump-start activity and help attract other business. That didn't work: Small amounts of corn and wheat are traded, but coffee and sesame seeds account for about 90 percent of exchange volume.

Eleni Gabre-Madhin, who founded the ECX and served as its first director, says one obstacle for the exchange was that the state didn't build enough warehouses to store bulky items such as cereals. During the government's next five-year growth plan starting in July, the ECX will "restrategize from the bottom up" so it can handle staple foods, says ECX Chief Executive Officer Ermias Eshetu. He says the ECX is now allowed to license private warehouse operators to expand storage capacity. ▶

MICHELE BORZONI/TERRAPROJECT/PICTURETANK. ANALYST DATA COMPILED BY BLOOMBERG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◀ Ethiopia's fragmented, barter-based agricultural economy will have to modernize before it can benefit from a Western-style commodity exchange, according to Fekade Mamo, general manager of Mochaland Import and Export and a former ECX board member. "The objective was to bring about an equitable food supply system" in the country, Fekade says. (Ethiopians are known by their first name.) "That has completely failed."

Trading floors have flopped in Zambia, Uganda, Nigeria, Zimbabwe, and Kenya. Each one, analysts say, suffered from the same flaw: a top-down approach that's better at attracting foreign aid than at improving farming practices and developing transportation and communications networks. Donors like exchanges because they look like institutions in their own countries, says Peter Robbins, a former commodities trader in London who's studied African exchanges. And "African leaders like to show off trading floors to show how modern their countries have become," he says.

Commodity exchanges can encourage a consistently higher crop quality, a key condition for global trade, says Gary Robbins (no relation to Peter), chief of the economic growth and transformation office at the U.S. Agency for International Development in Addis Ababa, Ethiopia's capital. ECX founder Eleni says farmers who use the exchange have seen benefits: Posting prices publicly has boosted their income, and centralized trading means buyers don't default on contracts.

The concept continues to appeal to outsiders. Since leaving the ECX in 2012, Eleni has been working with investors, including **International Finance Corp.**–an arm of the World Bank–and Bob Geldof's **8 Miles** private equity fund, to establish an exchange in Ghana. Next she hopes to help set up one in Cameroon.

Under the right circumstances, exchanges can make sense, says Shahidur Rashid, a food-security analyst with the International Food Policy Research Institute in Washington. The problem is that conditions for success, such as large trading volumes, a strong financial sector, and a commitment to transparency, don't yet exist in most countries, he says. "A new institution should add value, and I struggle to find that value," Rashid says. "Every country does not need an exchange. Nor is it any good to establish them in places where they will fail." —*Alan Bjerga and William Davison*

The bottom line Many of the commodity exchanges started in sub-Saharan Africa to help farmers have failed.

Investing

It's 'Price-to-Whatever' For Chinese Stocks

▶ **Money keeps pouring in as the market soars**

▶ **"Traditional market models may not be able to capture the full picture"**

And You Thought the S&P Was on a Roll...

Shanghai Composite Index

DATA COMPILED BY BLOOMBERG

Signs of a Chinese stock market bubble are visible just about everywhere Hao Hong looks. Hong, the chief China strategist at investment bank Bocom International Holdings, points to soaring price-earnings ratios, the shrinking yield advantage that stocks offer over bonds, and the 34 percent premium of stocks listed on mainland exchanges over almost identical shares in Hong Kong. So what's his advice? Keep buying, of course. "Our traditional market models may not be able to capture the full picture," Hong says a few days after spelling out his argument in a March 20 report titled *Price-to-Whatever Ratio: A Bubble Scenario*.

Hong is among a growing number of forecasters who say traditional measures of value have little sway in a market in which individual shareholders account for 80 percent of trading volume and the biggest companies are run by the state. As long as China's government maintains its support for the rally and keeps borrowing costs low, they say, money will flow into the market and drive stock prices higher.

Even after the Shanghai Composite Index jumped 77 percent during the 12 months ended on March 26–the biggest gain among major global equity gauges tracked by Bloomberg–shareholders are showing few signs of caution. Mainland investors opened a record number of accounts in the week through March 20, and the value of equities purchased with borrowed money rose to an all-time high on March 24. "There are lots of people who still want to move into the market," says Xu Qian, a 37-year-old pilot who claims an average return of about 20 percent on his stock holdings in the past two months and expects the gains to continue.

If recent comments from government officials are any guide, authorities aren't planning to slow the rally. Zhou Xiaochuan, who heads the People's Bank of China, told reporters in March that money flowing into the market helps promote growth. He's cut

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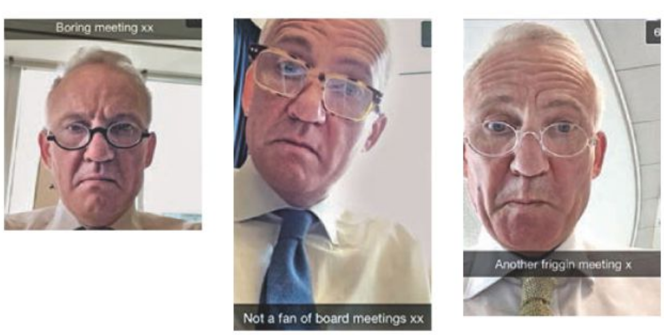


Rory Cullinan lost his position as chairman of the Royal Bank of Scotland's investment bank last month after a dispute over strategy. He won't miss the meetings, judging by these screenshots from a Snapchat with his daughter.

interest rates twice since November. The China Securities Regulatory Commission said on its blog in March that market gains reflect government support for the economy. Premier Li Keqiang has pledged to take action if economic growth falters. Investors are confident that the market "has government support, and it should continue to rise," says Qun Liao, chief economist and head of research at China Citic Bank International.

Officials want to see the rally continue because a strong stock market makes it easier for companies to raise money to invest in projects that drive economic expansion, says Kelvin Wong, an analyst at Bank Julius Baer in Hong Kong. China has relied on borrowing by companies and local governments to spur the economy for the past five years, sending total debt to more than twice the nation's gross domestic product.

For investors who still use valuations as a guide, there's reason for concern. The Shanghai Composite Index's median price-earnings ratio has climbed to 44. The index has surpassed that level only twice during the past decade, in late stages of rallies in 2007, when it climbed as high as 66, and early 2010, when the peak was 47. The Standard & Poor's 500-stock index has a median ratio of about 20, according to data compiled by Bloomberg.

Signs of euphoria among Chinese stock investors prompted **Bank of America** on March 23 to downgrade its recommendation on the market to neutral from overweight. "It is time to book some profits," Ajay Kapur, a strategist at Bank of America Merrill Lynch in Hong Kong, wrote in a March 23 report. Although Bocom analyst Hong says an eventual reversal in market momentum will be "swift and brutal," he's not ready to say sell. His target of about 4,000 for the Shanghai index in the first half of this year implies a gain of 9.3 percent from a close of 3,691 on March 27. In his latest report, he summed up the case for a continuing bull market with a line he attributed to John Maynard Keynes: "There is nothing so disastrous as the pursuit of a rational investment policy in an irrational world." *—Bloomberg News*

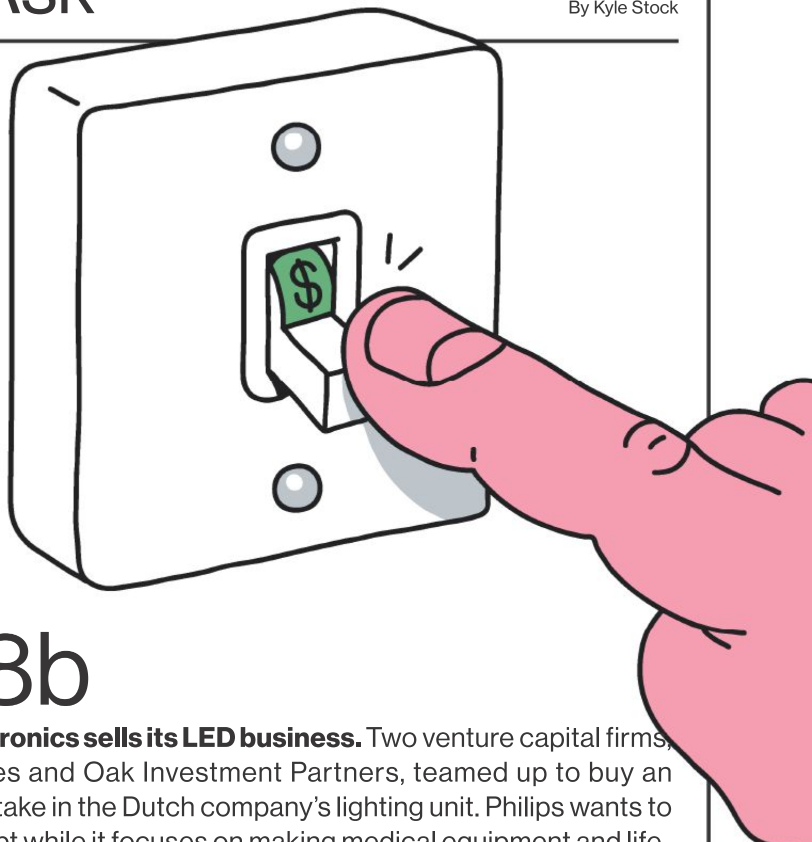
The bottom line A 77 percent rise in the Shanghai Composite Index in the past year hasn't discouraged investors from piling in.

Edited by Eric Gelman
Bloomberg.com

ILLUSTRATIONS BY OSCAR BOLTON GREEN

Bid/Ask

By Kyle Stock



$2.8b

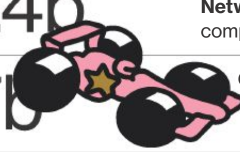
Philips Electronics sells its LED business. Two venture capital firms, GSR Ventures and Oak Investment Partners, teamed up to buy an 80 percent stake in the Dutch company's lighting unit. Philips wants to pay down debt while it focuses on making medical equipment and lifestyle products such as coffee machines and electric shavers. Siemens, a Philips competitor, spun off its lighting business in 2013.

$12.8b

UnitedHealth Group swallows Catamaran. Buying a pharmacy benefits manager will increase UnitedHealth's bargaining power with drugmakers.

$10.4b

Charter Communications plugs into Bright House Networks. Adding the nation's sixth-largest cable company will make Charter No. 2 in the U.S., after Comcast.



$7.7b

ChemChina bids for Pirelli but is rebuffed. The Chinese chemical company is considering raising its offer for the tiremaker.

$5b

Dow Chemical dumps chlorine. Olin, a smaller rival, picked up the chlorine unit as Dow concentrates on electronics and agricultural products.

$2.5b

Sears Holdings raises cash with a REIT. The troubled retailer created a real estate investment trust, Seritage Growth Properties, to buy stores and lease them back.

$1.1b

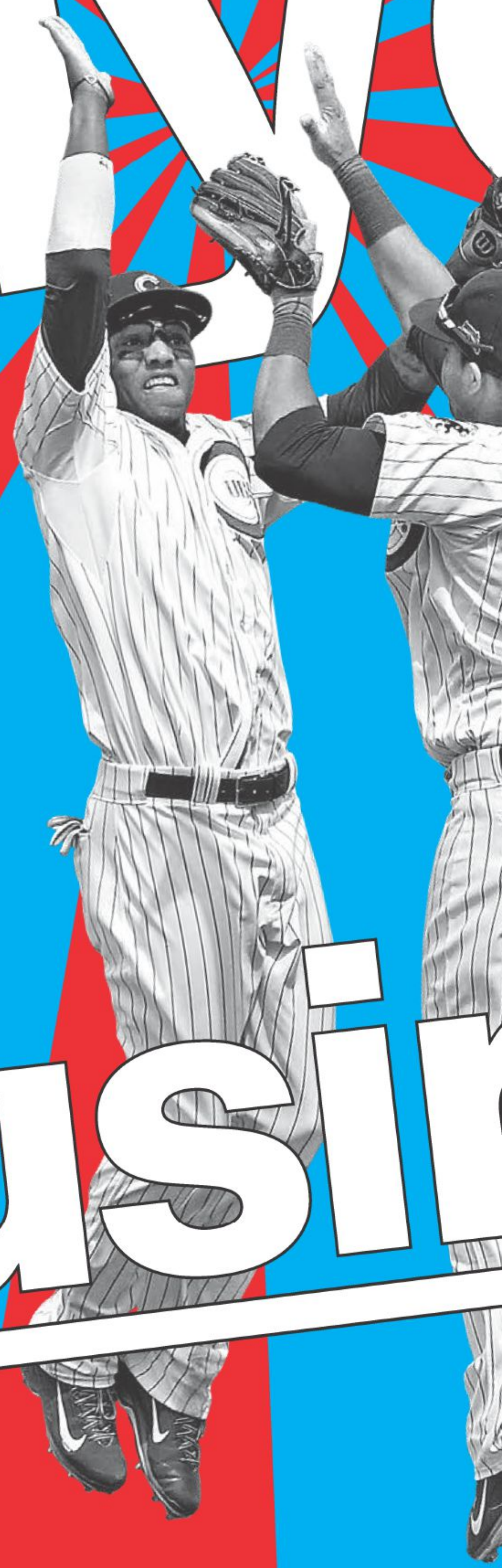
Horizon Pharma buys Hyperion Therapeutics. The purchase gives Horizon two treatments for so-called orphan diseases, extremely rare medical conditions.

$460m

GoDaddy gets off to a good start. The 18-year-old Internet company sold 23 million shares in a larger-than-expected initial public offering.

Holy

It's a Busi



Cow!

Plan!

ness

After a century of futility, the Chicago Cubs have a new strategy: Operate like a modern baseball team

By Ira Boudway

When Jon Lester came to visit the Chicago Cubs the week before Thanksgiving, the team brought him to its brick offices a couple of blocks north of Wrigley Field. Lester, a 6-foot-4 left-handed pitcher with a devastating cut fastball, was one of the prize free agents on the market. Crane Kenney, the Cubs' president for business operations, showed him a table-size scale model of Wrigley as it will be when the team finishes a $575 million renovation, with restored ironwork and terra cotta on the exterior, a jumbo video board above the left field bleachers, and a Cubs-branded hotel across the street. On a 108-inch touchscreen, Kenney brought up illustrations of the new clubhouse, which will have a 200-seat auditorium along with its dining, recreation, and weight rooms. "The Yankees will have a slightly larger clubhouse than ours," Kenney says, reprising the same presentation four months later, "but at 30,000 square feet, we'll be the second-largest."

The bulk of the spiel came from Theo Epstein, the Cubs' president for baseball operations and the guy responsible for putting together a winning roster. He made a virtue of the Cubs' failure to win a World Series since 1908. Epstein says, "We told him how he could help deliver one of the most significant championships in the history of sports and how we felt like we weren't too far away."

Lester's a Cub now. In December he signed a contract for $155 million over six years. Lester, Epstein recalls, kept repeating "over and over that if we win here they will burn the city down again." It was that possibility more than any new clubhouse that landed the pitcher.

His signing was a loud announcement that the Cubs, coming out of one of the most thorough demolition jobs in baseball history, are ready to compete again. Since the team hired Epstein in October 2011, they've won 200 games and lost 286. In 2012 they lost 101 times—their worst season since 1966. "I don't think you can ever succeed lying to your fans," Epstein says of the lost seasons. "So we told them, 'Right now we are in a mode where we are trying to do everything we can to acquire young talent. And we are doing it because we want to create a perennial contender.'"

The overhaul was not only on the field. In the past five years, the team has doubled the size of its front office and updated almost everything about its operations, from ticketing to media deals. It's built new training facilities in the Dominican Republic and Arizona and begun the largest renovation in Wrigley Field's 101-year history. The reboot started when the bankrupt Tribune Co. sold the bankrupt Cubs to the Ricketts family in October 2009. Tom Ricketts—with his parents, Joe and Marlene, and three siblings, Pete, Laura, and Todd—paid $845 million for the team.

In the Tribune media empire, the Cubs were programming for cable superstation WGN-TV. The company bought the team and the ballpark from cash-strapped William Wrigley III for $20.5 million in 1981 and paid them both about as much attention as it did to reruns of *Cheers*. William had been the third generation of Wrigleys to own the team. Like his father, P.K., he treated the Cubs as a vehicle for selling afternoons of beer and sunshine. "The grass would be so green, and the ivy so lush, and the sun so bright, and the Old Style lager so cold, that people wouldn't care what the scoreboard said," says George Will, the *Washington Post* columnist, who's been a Cubs fan for more than 60 years. The Rickettses are trying to run the Cubs like a modern baseball team. It's a novel approach for the Lovable Losers, who now have the chance to contend year after year, and maybe even win a World Series.

When the Rickettses bought the Cubs, the team was coming off of three straight winning seasons. "I'll be honest: I think we have a team that can do it next year," Tom, the team chairman, said at the press conference announcing the purchase. The on-field performance, however, papered over

Wrigley Field under construction, March 2015

PREVIOUS SPREAD: BRIAN KERSEY/GETTY IMAGES. THIS SPREAD, CLOCKWISE FROM TOP RIGHT: DAVID BANKS/GETTY IMAGES; RON VESELY/MLB PHOTOS/GETTY IMAGES; CHARLES REX ARBOGAST/AP PHOTO

institutional rot. Under Tribune, almost every dollar of the budget went to player payroll. Big-name free agents kept fans coming through the turnstiles and tuning in on TV; everything else was neglected. "We basically had this asset that was in a time capsule for 30 or 40 years," Kenney says.

Top: Epstein at Wrigley last season; bottom: Tom Ricketts, left, at a 2014 home game against the Arizona Diamondbacks

The Cubs spent just $10 million a year maintaining Wrigley Field. Nets kept chunks of concrete from falling onto fans from the upper-deck roof. Trailers housed media relations, information technology, and human resources. The team's servers were protected from water leaks by a "rain hat," Kenney says, recalling a tinfoil bonnet devised by a co-worker. Group ticket sales were recorded in triplicate using carbon paper. Season ticket renewals were done by fax. The staff tracked progress by how many times they refilled the fax machine.

In 2010, Kenney presented Tom Ricketts with a list of 12 projects that would all cost a lot of money and make enemies. It included the stadium rebuild and a large turnover of staff. "My hope was that he would say, 'I'm OK with one, five, eight, and eleven,'" Kenney recalls. "Instead he said, 'Let's do them all.'"

Kenney joined Tribune in 1994 as a lawyer helping to buy and launch radio and TV stations. He was general counsel for the company in 2001, when the Cubs proposed a 2,600-seat addition to Wrigley's bleachers, sparking a legal war with business owners who'd turned the rooftops outside the field into game-day bars. Two years later the company put him in charge of the team.

Kenney's baseball knowledge was minimal (he'd been a swimmer at Notre Dame). Balance sheets were his specialty. The day he discovered that major league clubs share financial information with each other was "Christmas morning," he says. "If you ask me what did the Braves take in last year in concessions, I can tell you." He waves a thick pile of bar charts. "What did the Red Sox spend in player development? I can tell you." (He won't, though, because teams don't disclose this information to the public.) He's sitting next to the model of the new Wrigley in the Cubs presentation room. At 52, he still has a swimmer's physique and strawberry-blond hair, but his beard is graying.

built like

now,"

Looking at the numbers in 2006, Kenney saw the broken business and the model for fixing it. The Boston Red Sox looked a lot like the Cubs, except richer. "Why is it they're producing so much more revenue than we are, in the same cramped little ballpark, in the same-size market, with the same fan base?" he recalls asking himself. He set out to create the Red Sox of the Midwest. "The road map in many ways has already been paved," Kenney says. "The Red Sox have done it by renovating their old ballpark, redoing their media rights, putting a better product on the field, and bringing more marketing into the ballpark." Tribune, however, was in no rush to fix the team. And the rooftop owners were happy with the way things were.

The rooftop scene started in the 1970s with a few Weber grills and cases of beer on top of apartment buildings across the street from Wrigley's outfield. By the time the Cubs proposed the bleacher expansion in 2001, the bars had become a cottage industry with bleachers of their own, liquor licenses, and more than $10 million in annual revenue. The rooftop owners didn't want their views obstructed, so they donated tens of thousands of dollars annually to city aldermen, who began the process of landmarking Wrigley—a designation that would allow the city to block changes to the ballpark. The Cubs resisted. In 2002, looking for leverage in a losing political fight, the team sued rooftop owners for copyright infringement and unfair competition. When negotiations ended in early 2004, the city got its landmark, including protection for the "uninterrupted sweep of the bleachers," but it allowed the Cubs to add 200 premium seats behind home plate and more night games to the schedule. Under a 20-year agreement, signed days earlier, the rooftops pay the Cubs 17 percent of their sales in exchange for limits on changes to their views. So far, the rooftop owners have paid about $4 million per year. It hasn't been a great deal for the Cubs. By their reckoning, the landmark restriction has cost them as much as $30 million a year in lost revenue from outfield advertising.

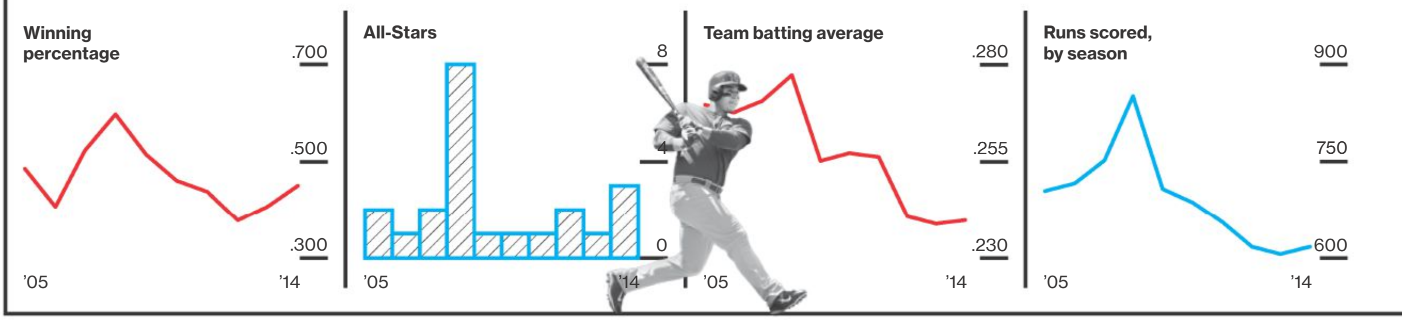
While the rooftop dispute unfolded, Tribune was crumbling. Sam Zell, a self-described "grave dancer" who specialized in distressed real estate, had bought the debt-laden company for $8.2 billion in 2007 and let the world know that the Cubs were for sale. The Ricketts family won the bidding in January 2009. When the sale closed nine months later, they got the team, the stadium, and 25 percent of Comcast SportsNet Chicago, the cable channel that carries many of its games. Almost any new owner would have been welcome under the circumstances, but these were a Cubs fan's fantasy come true.

Joe, the father, made the family fortune as founder of the discount stock brokerage now known as TD Ameritrade. Tom, 49, runs the team day-to-day. Before the purchase, he was an options trader and Cubs bleacher bum. (He met his wife, Cecilia, in the center field seats in 1991.) Columnist Will calls him "the first worthy and serious owner" since William Wrigley Jr. died in 1932.

Ricketts kept Kenney on as resident bad guy. Ricketts, the superfan, would be the cuddly face of the Cubbies, while Kenney, the corporate lawyer from Tribune, would swing the elbows. Kenney was already the guy who'd sued the neighbors and sold bleacher naming rights to Bud Light. When the Cubs wanted funds for a new spring training ground in Mesa, Ariz., he threatened a move to Naples, Fla. (Mesa eventually paid $99 million for the largest spring training complex in Arizona, opened last year.) When WGN Radio, a Cubs broadcaster for 90 years, dragged its feet on a deal, Kenney moved the team to WBBM.

During the ownership limbo, Kenney had made several failed bids at public financing for a major Wrigley renovation. Now, with backing from Ricketts, he tried again. In 2010 the Cubs asked the state to put up $200 million by drawing from city and county amusement taxes already levied on the team's

After years of deliberate decline...



ticket sales. Rahm Emanuel, the former White House chief of staff who was elected mayor of Chicago the following year, was central to the proposed deal. But in May 2012 the *New York Times* got hold of a copy of a document called *The Defeat of Barack Hussein Obama: The Ricketts Plan to End His Spending for Good*. The proposal, commissioned by Joe Ricketts, an active Republican, called for spending $10 million in PAC money to rehash the Reverend Jeremiah Wright controversy. While Tom tried to distance the family from the proposal, Emanuel, according to the local newspapers, wasn't amused. Tax money was off the table. "That one ended poorly for us," Kenney says.

The Cubs decided to foot the bill themselves. Still, they had to get any major changes past the city landmarks commission and deal with the rooftop owners, whose contract with the team doesn't expire until 2023. In January 2013, after months of negotiations, the Cubs put forward a plan they thought was palatable to everyone. It called for a 6,000-square-foot video board in left field and a smaller, neon-script advertising sign in right. The proposal won approval from the landmarks commission that summer. The rooftop owners, however, were still threatening to sue.

Last May the Cubs gave up trying to appease the rooftops and went ahead with a more ambitious plan, including two video boards and five signs. The landmarks commission approved it in the summer, though with a slightly smaller video board. The Cubs also brought the blueprints to the National Park Service to get Wrigley on the National Register of Historic Places. (Like the Red Sox, the Cubs are looking to take advantage of federal tax breaks offered for restoration projects.) The parks agency tweaked the plans yet again—cutting one sign and shrinking a video board. Work at Wrigley began at season's end last year.

Two rooftop owners sued in January to block the changes. They allege the Cubs tried to enlist them in a price-fixing scheme for tickets, misrepresented them in public, and breached their contract. The Cubs said in a statement in January that they will "vigorously contest" the suit, which is before a federal judge in Illinois. Thomas Lombardo, a lawyer for the rooftop owners, didn't return calls for comment. Kenney declined to talk about the case.

A month before the April 5 season opener, against the St. Louis Cardinals, snow covers Wrigley Field. The left field bleachers are a skeleton of gunmetal steel; the right field bleachers have been removed for now. The sun is mostly ornamental with the temperature in the teens. Bobcat loaders zip around the steel columns under the grandstand. Wrigley will still be a construction site on opening day. The right field bleachers won't be ready until mid-June because record cold slowed work over the winter.

"We had some really wicked days here in February," says Carl Rice, the Cubs' vice president for ballpark operations and a 33-year veteran with the team. "We had to redo the footings of the ballpark, cut off the columns and resupport them, and then put in new footings," says Rice, standing in a hard hat, protective eyewear, and jeans. The columns on the innermost ring run from bedrock 100 feet below to the top of the light stands. "This is the last one we're doing this year," he says, pointing to a stick of steel hanging like a stalactite above the heads of two workmen in a hole below the third-base grandstand. Most of the bones of Wrigley haven't been touched since it was built in 1914. "She was built like a battleship back then, and she's being built like a brand-new battleship right now."

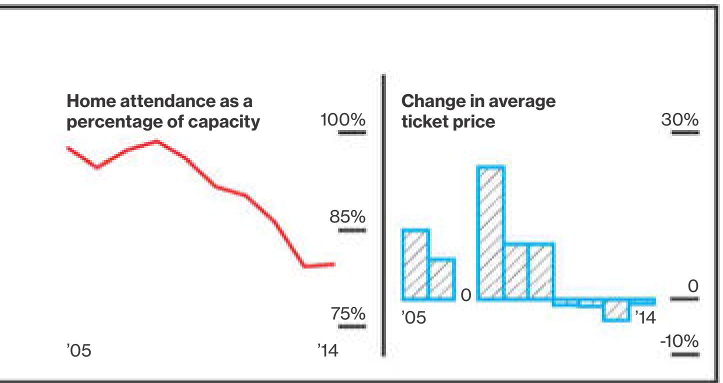
By summer, there will be new bleachers in left and right field, with two video boards and four signs as backdrops. The clubhouse, to be built beneath what used to be a parking lot, is scheduled to open in 2016. When the work is done in 2019, there will be expanded luxury suites, four new clubs for fans with premium seats, patios ringing the grandstand, two stories of shops and restaurants tucked against the outer wall in right field, and, on the other side of the park, an outdoor plaza and a 175-room hotel.

The rooftop squabble is an extreme version of a back-and-forth that happens over pretty much anything that occurs at Wrigley. Every pro sports team talks about being a public trust; the Cubs, a 139-year-old franchise plopped in the middle of a residential neighborhood, have to act like one. The team didn't play a night game until 1988 because of neighbors' concerns about noise—and because the local bars prefer fans spilling out of the ballpark in the early evening.

"We have to be intentional about the pace of change," says Colin Faulkner, the Cubs' vice president for sales and partnerships. The team allows only green-and-white advertising on the field and plans to go easy with the new video board, he says. "We're not going to run 30-second spots with brands up there." In 2010, Kenney thought the Cubs could get away with a giant Kraft macaroni noodle outside Wrigley. After broad derision, they moved it across the street and then got rid of it. "That was one where I made the call at the end of the day, and I was wrong," says Kenney. "So my threshold is: Is this a noodle?"

In February the Rickettses sold six minority shares in the team for about $175 million combined, to ease the squeeze of rebuilding. Expanded luxury suites, a potential source of tens of millions of dollars annually, won't be complete until 2018. The team has lined up its three local TV deals—with WGN-TV,

"Basically, my job is fill a wheelbarrow with money, take it to Theo's office, and dump it"



Comcast SportsNet Chicago, and Chicago's ABC affiliate—to expire in 2019, when it will have a chance to launch its own regional sports network or at least boost its rates. The Cubs raised ticket prices (about 2 percent) this year for the first time in four seasons. With increases in the gate receipts, sponsorships, and media deals, the team stands to add as much as $100 million in annual revenue, roughly closing the gap with the Red Sox. "Basically, my job is fill a wheelbarrow with money, take it to Theo's office, and dump it," Kenney says of Epstein, the head of baseball operations.

Epstein watches from behind home plate on a sunny afternoon at the training complex in Mesa. It's a so-called B game against the Los Angeles Angels of Anaheim, which means there are no ticketed fans, just a sprinkling of family and team employees. Epstein wears a gray-and-white mesh Nike baseball cap, gray slacks, and a mesh Cubs pullover. He dismisses one of the team's press handlers, as our interview begins. "I don't do monitored interviews," he says.

Epstein, who grew up in Brookline, Mass., came to the Cubs from the Red Sox. At 28, he was the youngest general manager in baseball history when Boston promoted him in 2002. After the Red Sox's World Series win in 2004, Epstein became a legend, at least in the eyes of the managerial class. He was there for another championship in 2007 and an historic late-season collapse in 2011. Then he left for the only club with a longer history of futility. "I always had this place in the back of my mind as a place I'd like to someday work and try to help win a championship," he says of the Cubs. At his first press conference, in October 2011, he said he wouldn't use the word "rebuilding." That was before he realized the full depth of the Cubs' problems. "We had a bottom-third farm system without any top-50 prospects," he says now.

Over three seasons, Epstein cut payroll by $41 million to $93 million in 2014. Every year, as the July trade deadline approached, he offloaded two of the team's five starting pitchers for draft picks and prospects. Conventional wisdom in baseball says to "grow the arms and buy the bats." Young talent is doubly precious because the league's collective bargaining agreement keeps players' pay controlled through their first six seasons. Last year, the San Francisco Giants rode the left arm of Madison Bumgarner to a World Series win. Bumgarner was in his fourth season, and the Giants paid him $3.75 million, a fraction of what he'd get as a free agent. The savings covered the $16 million salary of veteran right fielder Hunter Pence.

Epstein is running this model in reverse. Lester is the $155 million arm to go with a bumper crop of homegrown bats. Over the last three drafts, the Cubs are one of four teams, along with the Oakland A's, the Seattle Mariners, and the New York Mets, to use all their first-round picks on position players. Epstein surveyed the history of the draft and found that top-hitting prospects panned out more often than pitchers. For every Bumgarner, there are several prized young pitchers derailed by injury. Cubs fans, by and large, seem to have bought into the rebuild, but Epstein couldn't afford a flameout. "Rebuilding in a big market is just crazy enough that you want to get it right the first time and you want to do it fairly quickly," he says.

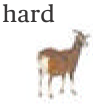
While Epstein's talking, two of those Cubs first-rounders—Albert Almora, the sixth pick of the 2012 draft, and Kris Bryant, the second pick of 2013—hit home runs. Bryant's flies over the wall in left field before anyone has time to cheer. Along with Almora and Addison Russell, he's part of a pipeline that should keep the team stocked for the next five years. *Baseball Prospectus*, a respected online guide to the game, now ranks the Cubs' farm system as the best in the league.

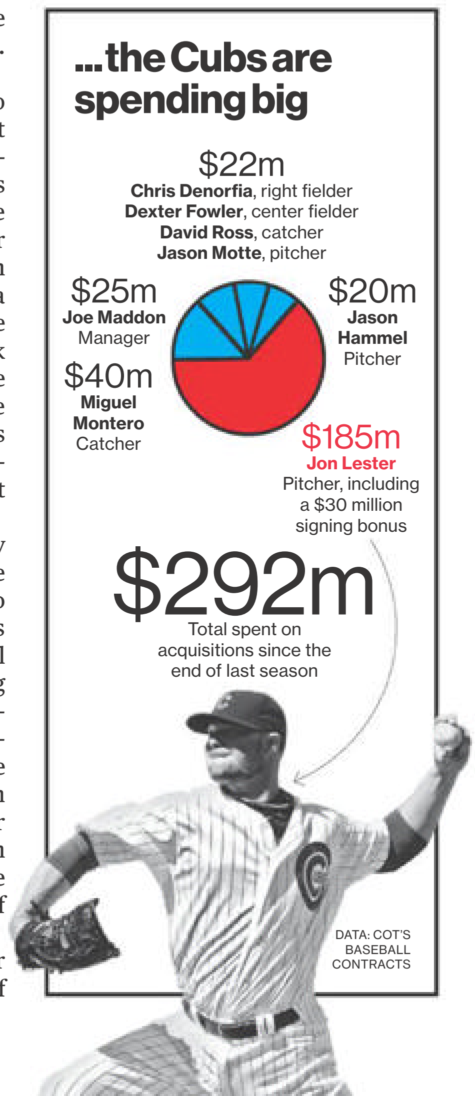
This past offseason, the Cubs decided they were far enough along, on the field and on the balance sheet, to flip the spending switch. Before signing Lester, they hired a new manager, Joe Maddon, from the Tampa Bay Rays, for $25 million over five years. The free-agent spree also included right-handed pitcher Jason Hammel (two years, $20 million). Altogether, they committed $292 million, including signing bonuses, to Maddon and new players.

Last fall, Epstein let fans know that the Cubs' goal for this year is to win the National League Central Division. Maddon is thinking World Series. "Why not us?" he told *USA Today*. This is the year, after all, that Marty McFly visits in *Back to the Future Part II* to discover that the Cubs have finally won the Series.

"There is a broad band of potential outcomes this season," Epstein says in Mesa, trying to temper expectations. He compares the Cubs to the Kansas City Royals of four years ago, which had the most envied stable of young hitters in baseball. It took those hitters three years to figure out major league pitching. Last October they got hot and came within a game of winning it all. "Is it going to take that long for our guys? It very well could," Epstein says. "Young players deserve patience."

The Cubs organization will need some patience as well. A whiff of success would be intoxicating, maybe enough to fall into the usual trap: trading away young talent and signing past-their-prime free agents in the hopes of winning now. "There is definitely a forced discipline to a rebuild, where your situation is obvious and you can be really single-minded," Epstein says. "Now the hard part starts." Ⓑ



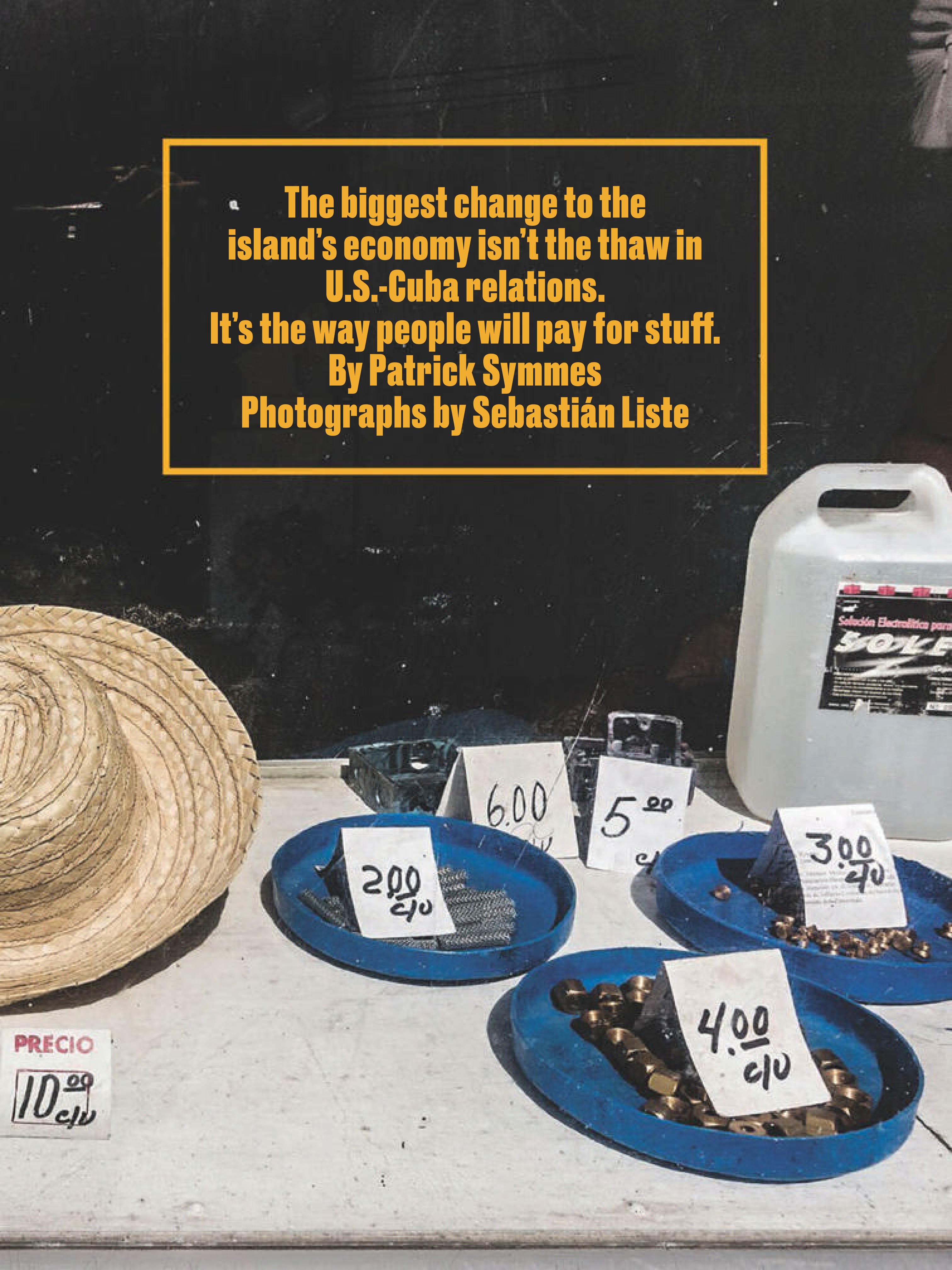


FROM LEFT: AL BELLO/GETTY IMAGES; RICH PILLING/ GETTY IMAGES; ALAMY. DATA: CHICAGO CUBS, MLB.COM, BASEBALL-REFERENCE.COM, ESPN MLB ATTENDANCE REPORT, TEAM MARKETING REPORT'S MLB FAN COST INDEX

Cuba's New Money

The biggest change to the island's economy isn't the thaw in U.S.-Cuba relations. It's the way people will pay for stuff.

By Patrick Symmes
Photographs by Sebastián Liste



The currency crisis starts about 75 feet into Cuba. I land in the late afternoon and, after clearing customs, step into the busy arrivals hall of Havana's airport looking for help. I ask a woman in a gray, military-like uniform where I can change money. "Follow me," she says.

But she doesn't turn left, toward the airport's exchange kiosk. Called *cadecas*, these government-run currency shops are the only legal way, along with banks, to swap your foreign money for Cuba's tourist tender, the CUC. Instead, my guide turns right and only comes clean when we reach a quiet area at the top of an escalator. "The official rate is 87 for a hundred," she whispers, meaning CUCs to dollars. "I'm giving you 90. So it's a good deal for you."

I want to convert $500, and she doesn't blink an eye. "Go in the men's room and count your money out," she instructs. "I'll do the same in the ladies room."

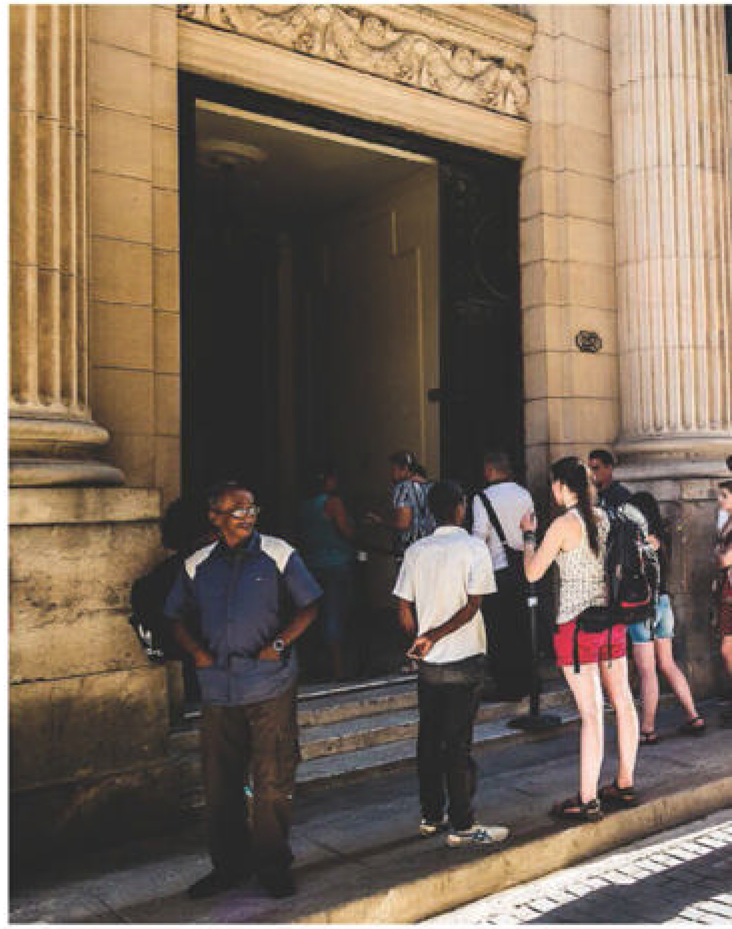
The bathroom is crowded, with not one but two staff and the usual traffic of an airport in the evening. There's no toilet paper. In an unlit stall I try counting to 25 while laying $20 bills on my knees. There's an urgent knock, and under the door I see high heels. "I'm still counting," I say.

She's back two minutes later and pushes her way into my stall. We trade stacks, count, and the tryst is over. For my $500, I get 450 CUCs, the currency that's been required for the purchase of almost anything important in Cuba since 1994. CUCs aren't paid to Cubans; islanders receive their wages in a different currency, the grubby national peso that features Che Guevara's face, among others, but is worth just 1/25th as much as a CUC. Issued in shades of citrus and berry, the CUC—dollarized, tourist-friendly money—has for 21 years been the key to a better life in Cuba, as well as a stinging reminder of the difference between the haves and the have-nots. But that's about to change: Cuba is going to kill the CUC. Described as a matter of fairness by President Raúl Castro, the end of the two-currency system is also the key to overhauling the uniquely incompetent and centrally planned chaos machine that is the Cuban economy.

Even in Cuba there are markets, and the effects of Castro's October announcement of a five-step plan for phasing out the CUC are already rippling out to every wallet in the country. The government has issued notifications and price conversion charts, and introduced new, larger bills to supplement the low-value national peso. Over the next year, the CUC will be invalidated—what Cuban economists call Day Zero—and then, in steps four and five, the regular Cuban peso will become exchangeable and be floated against a basket of five currencies: the yuan, the euro, the U.S. dollar, and two others to be named later.

Thanks to the expected normalization of relations with the U.S., tourism, already the engine of Cuba's current economic boom, is expected to grow enormously—though by this time next year foreigners will be required to negotiate their visits with mounds of regular pesos. Raúl Castro is effectively gambling that he can release some control over the economy in exchange for growth, ensuring the regime's survival.

The reality, however, may be anything but orderly. During my visit, I witness the hoarding of dollars, an unstable black market, and a deep distrust of the government's financial speculations. Get out of CUCs, the rumors urge, and into dollars. For a 3 percent spread, a woman will even follow you into a bathroom stall.



In January 1961, a cargo ship arrived in the harbor of Santiago de Cuba bearing a load of freshly minted cash. Cuba's pre-revolutionary peso had been stable and valuable for decades, a source of patriotic pride. Overnight, the Cuban revolution invalidated the old peso and replaced it with new bills, signed by Che Guevara and worth what the government said they were worth. The gesture sidelined opponents, reduced the independence of the professional and middle classes, and effectively seized the island's remaining wealth in one gesture. In 1967, when Che died, it was his face that went on the currency, memorably gracing a 3-peso note that would get you lunch and a drink. Today that same bill is worth 12¢.

The end of Soviet subsidies in 1991 brought real economic desperation to Cuba. Dollars were traded on the black market. (In a dark Havana alley, I once got 125 pesos for a single greenback in a hurried transaction with a frightened man.) By 1994, in an effort to co-opt the black markets and once again take hold of the island's resources, the government introduced the CUC. Initially this was strictly for tourists, the only legal tender for all those mojitos and langoustines. The CUC was pegged at 1:1 with the U.S. dollar, and just the commissions on exchanging it—up to 20 percent—earned the Cuban government billions a year.

> "Those in the peso-only economy are completely dependent on the government"

The CUC turned tourism into a lucrative lifeline during the 1990s, and at first only a few essential imports—shoes, soap, tires—were sold to Cubans in CUCs, at a few, heavily guarded stores. Today

Lining up to exchange currencies in Old Havana

those misnamed "dollar stores" exist in every neighborhood, and the CUC, first intended to insulate Cubans from capitalism, is the only way to buy the majority of consumer goods.

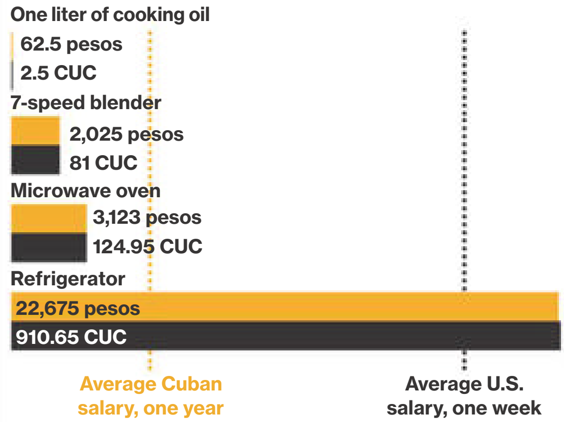
This is the Cuban dilemma: Salaries are paid in ordinary pesos, and average just $20 a month, even though the cost of survival runs around $50 a month, and must be paid for with CUCs at government stores that, until now, accepted nothing else. As crazily inefficient as the existing two-currency system appears, it has allowed the government to maintain near-total dominance of the economy. The Cuban revolution has always viewed money as a problem, not a solution. That's why the peso of the old republic had to be destroyed overnight in 1961. Having money let people be independent and operate outside the system. "It's part of the DNA that Fidel imprinted on the revolution," notes Ted Henken, a sociologist at Baruch College who has specialized in the island.

What the government has finally grasped is that the two-currency system has become economically and politically unsustainable. To get around it, Cubans steal state resources, work black market jobs, and even arbitrage the price differential between mangoes at opposite ends of the country. "Those in the peso-only economy are completely dependent on the government, which is in control of more than 85 percent of the total economy," says John Kavulich, president of the U.S.-Cuba Trade and Economic Council in New York. For the citizenry to "have a legitimate stake in the economy," he notes, there should be one currency, used for salaries and all stores, and traded openly. "It needs to happen," Kavulich says.

***No política*. That's what Yamil Alvarez Torres says as he** settles onto a hotel sofa in Old Havana, his Under Armour socks showing a fashionable amount of ankle from beneath pressed

So You Want to Buy a Fridge?

Raúl Castro plans to kill the CUC, one of the island's two currencies—and the one that's pegged to the U.S. dollar and has been the key to a better life in Cuba for 21 years



DATA: SYMMES, SOCIAL SECURITY ADMINISTRATION

jeans and a striped dress shirt. Alvarez looks the part of the new Cuban entrepreneur, a successful restaurant owner who has bourgeois hobbies–dogs and free diving–and an almost unlimited confidence in the future. But no politics. Like most Cubans, he avoids talking or even thinking about the nation's closed and secretive political system too much.

Havana today is in physical bloom. A gallon of paint costs 30 percent of a typical monthly salary, yet half the houses in the city seem freshly painted. The once-ubiquitous and fuming thunder chariots of old Detroit are either shined up with new chrome and paint or, more often, sidelined by more recent and reliable Korean and Chinese vehicles. The people I'd known on the edge of starvation over the last 20 years of visiting are now fighting the creep of their waistlines and the return of pastries and deep-fried everything at street-corner kiosks. Even in 1991, Cuba seemed more open than it was, an island without barbed wire or machine guns, the friendly blue ocean serving as its Berlin Wall. Now the openness is tangible: In December, Cuba and the U.S. announced that the two intend to reestablish relations after more than four decades of enmity. On Havana's streets, there's a charge of anticipation, and one senses a people eager to embrace the world.

"It's getting easier and easier to do business in Havana," Alvarez tells me. "If you get your logistics worked out, you can do it." I'd first visited his restaurant, Los Mercaderes, two years before, when he'd opened it as a *paladar*, or home restaurant, and the place had an empty, tentative feel. Now he has 50 employees and full tables every night, with musicians treading out jazz and Buena Vista Social Club hits from a tiny balcony; he and his wife have moved to another property.

He's nonplussed about the currency change: "If you are running a business and doing well, you are going to do well with one currency or two.... Honestly, I believe that anything you do efficiently and professionally is going to succeed in Cuba."

Efficiency and professionalism require reversing decades of perverse Cuban incentives, however. Most waiters are state-trained and paid in worthless pesos: They often spend more time on break, or talking to friends in the street, than attending to diners. "They expect to have their job forever," Alvarez says. "They get used to being bad." So he hires blank slates: English-speaking college grads, many of whom have never seen the inside of a nice restaurant before. "The main thing," Alvarez says, "is we want zero experience."

He sounds optimistic. "Very," he says. "There are over

250,000 entrepreneurs in Cuba since the new opportunities.... This is a door opening that isn't going to close."

If the opening has an official advocate, it's Omar Everleny, the lead economist at the Center for the Study of the Cuban Economy. The center is in a onetime private residence in an elegant Havana neighborhood, surrounded by embassies. Despite arriving at the building with an appointment at 4 p.m., I find it empty; the next morning Everleny meets me in the library, amid the smell of decaying paper, to walk through the slow death of the CUC and the likely benefits for Cuba.

Everleny, like many Cubans, can recite the exact date economic reforms began: Sept. 9, 2010. Raúl Castro had assumed control in 2006, during his brother's gastrointestinal illness. But his official promotion to leadership took two more years, and not till the fall of 2010 did he spell out reforms that expanded self-employment, removed limits on hiring by small businesses, and protected foreign investors from expropriation. Joint-venture hotels are routine now, with 60,000 rooms available. A new container port at Mariel, built by the Brazilian government, has created export capacity for a country that exports very little. More important, Brazilian President Dilma Rousseff has gambled that pharmaceutical production and other tightly controlled businesses can thrive here.

The most probable scenario is that Cuba will reluctantly follow the China model. Cuba isn't embracing freewheeling capitalism—Cubans are still allowed only one business each and are hemmed in on all sides by monopoly controls—but the back streets of Havana reminded me of no place more than the grim but awakening Beijing of 1987, when the People's Republic also had two currencies. Cuba limits self-employment to 201 categories, like Doll and Toy Repair (No. 128) and Breeder/Seller of Pets (No. 26). Even so, the number of licensed entrepreneurs has grown from 140,000 in 2010 to more than half a million today. Unlike a previous wave of self-employment in the 1990s, which was limited to survival-oriented trades like knife-sharpening (No. 6) or tire repair (No. 113), about half of today's licensed businesspeople are real entrepreneurs, concentrated heavily in tourism and restaurants but including taxi drivers, transport companies, clothing shops, cooperatives producing baby clothes, and lots of construction.

Raúl Castro has meanwhile removed a series of prohibitions that infuriated Cubans: They can now own cell phones, buy and sell their houses, and even stay in the hard-currency hotels (817,000 did last year) that were once the symbol of foreign privilege. Raúl has also loosened, if not released, his grip on expression. Dissidents and regime opponents who were long blocked from leaving the country are now routinely seen at conferences in Miami, New York, and Brussels. In the 1970s, Cuba had some 15,000 political prisoners; today that number is between 50 and 60, according to the Cuban Commission for Human Rights and National Reconciliation.

The currency change is already happening, Everleny notes. Step one was to tell people, to prepare them psychologically for the coming transition. Step two, which began a week before my February arrival, was to roll out new, larger-denomination peso bills, so that people could pay higher prices without carrying a backpack.

The timing of the remaining three steps remains vague, in the Cuban way. Raúl had said in his speech that the two currencies had to be reconciled before the next Communist Party congress. That's scheduled for April 16, 2016. The only thing known was that Day Zero would come before then.

To see how Raúl's changes and the looming currency conversion are playing out, I travel to Sancti Spíritus, a colonial town in central Cuba I hadn't seen for 24 years. I'd hitchhiked there in 1991, a two-day epic that required waiting under bridges with crowds of kind but needy Cubans and a return trip on a dilapidated train that stopped randomly for hours. This time I buy a seat in an unmarked Moscovich, a legal private taxi that roars inland, stopping only to slip behind a barn to buy black-market gasoline, fuel that was manually cranked into our tank. "Sorry about the smell," my driver says, "but this is the only way."

Six hours of driving sweep me into the flat, colonnaded city. Many things are still as I remember them. The streets are sleepy, the bars bleak, and the local bus network consists of eight-person carts towed by horse. Yet even here there's fresh paint, a computer repair business, and private furniture shops. I try to pay for ice cream with CUCs, making the woman laugh; the price is in pesos,

Even in the town of Sancti Spíritus, business is picking up

1/25th as much. The reverse happens at night, in the town's best restaurant. Because everyone in the place is Cuban, I expect grim portions and pesos. But the shrimp are superb, a sommelier shows off a genuine wine cellar, and the Cubans all pay hard-currency prices, half a month's salary on beer, beef, and watching baseball. In two decades of visiting, this is the first time I've shared a real restaurant with Cubans.

"There are over 250,000 entrepreneurs in Cuba since the new opportunities. This is a door opening that isn't going to close"

In the morning I go to buy a refrigerator. Home appliances are one of the most desirable items in Cuba, but their sale is restricted to a narrow range of state stores called *electrohogars*, and Sancti Spíritus has two of them off the town plaza. One is shut, the other sleepy and small, with more floor space given over to selling ice cream and soda than consumer durables. But in one corner are hair curlers, electric frying pans, all-in-one laundry machines, and a few Daewoo refrigerators. Many Cubans are eager to replace their 1950s fridges, but buying a full-size model means coming up with 910.65 CUC. At the bathroom-stall conversion rate, that's $1,001, or twice the price of a similar model on Amazon.com. It's also—as a new price tag says—22,675 pesos, or about four years' worth of the average Cuban salary. "If you're going to buy a refrigerator," Everleny tells me, "you're not going to pay for it with 20s. You'd have to carry a trunk." The release of new, larger denominations of standard peso bills is meant to smooth such transactions, but a year from now, with the peso possibly floating against a basket of currencies, there's a risk that hidden inflation and exaggerated purchasing power could surface. Many people are hoarding hundred-dollar bills simply to be safe.

On the way back to Havana, I ride on a CUC bus. In the past, regular people had no choice but to ride peso buses that were scarce, slow, and crowded. For 23 CUCs I get a seat on a punctual express that fills up mainly with foreign tourists but also some Cubans, the kind who have more than an average month's salary to spend on a bus ticket. We pass quickly through a string of grim cities—Colón, Cárdenas, Matanzas—all poor and unvarnished yet bustling with shops and commerce I've never seen before in Cuba. Like a vacuum, the unmet demand of Cubans is pulling reform to the farthest corners of the island.

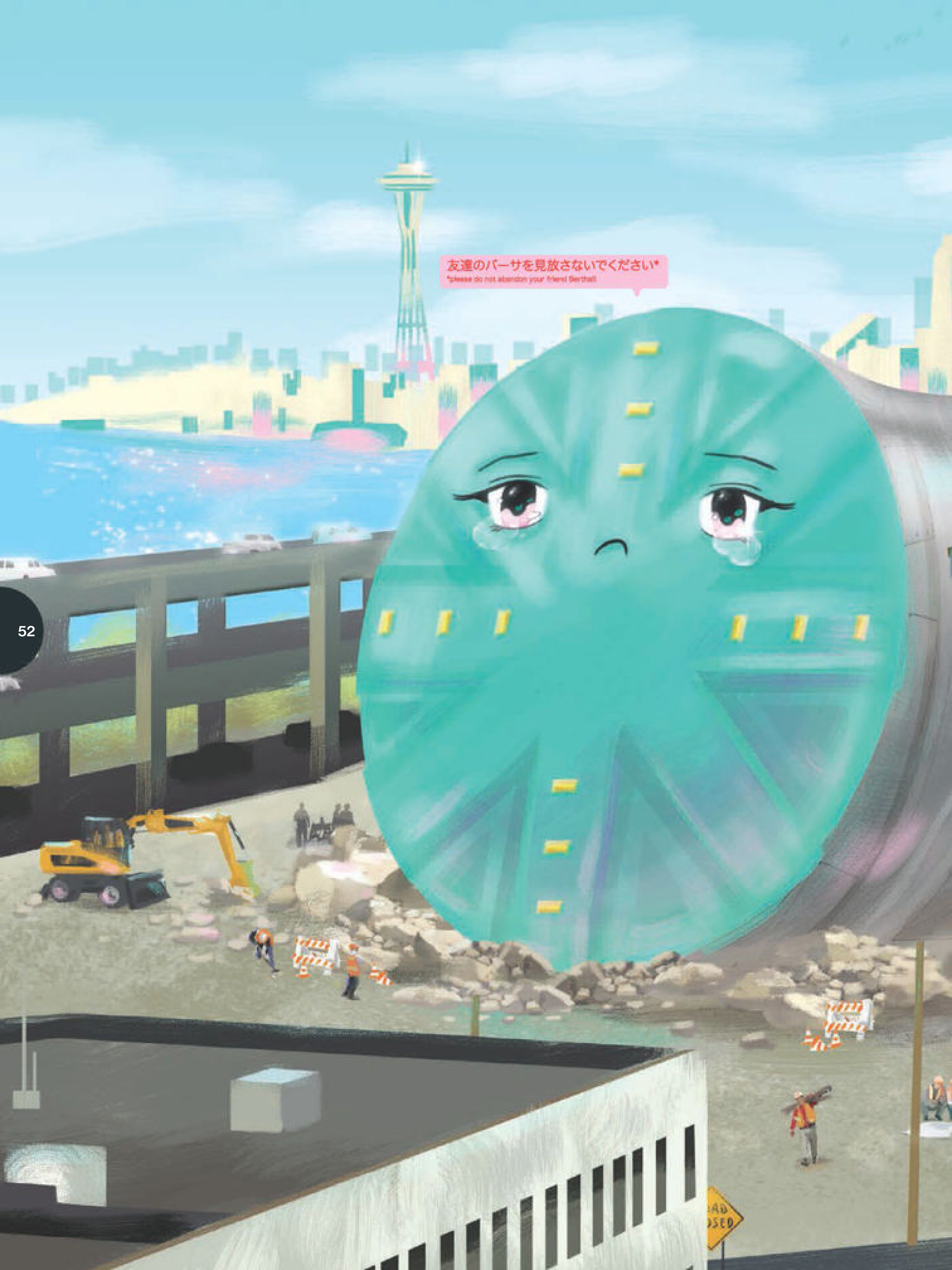
The bar at Fabrica de Arte Cubano, a gallery/nightclub that has private investment

Cuba has had a mixed economy for a long time: socialist until the food ran out, free-market thereafter. Critically, some of those markets are now legal and enriching, like the new real estate market that has seen houses in prime parts of Havana trade for hundreds of thousands of dollars (or CUCs, actually). There are also smaller, more clandestine markets, even for things like data. Many thousands of Cubans pay a fee to get what's called *el paquete*, an assortment of films, TV shows, video games, glossy magazines, and books from inside and outside the country. Cuba is ranked alongside Iran and North Korea for Internet censorship, with only a heavily filtered intranet available at an hourly price. El paquete is therefore a black-market delivery system, full of inefficiencies. The information is hand-carried into the country once a month, and the collection of American, Spanish, Mexican, and even Cuban media is passed around Havana on a terabyte-sized drive, or shared via illegal Wi-Fi networks in private homes.

The blogger Yoani Sanchez points out that this black market in information sticks to a familiar Cuban rule—nothing in el paquete should be explicitly political, to avoid drawing attention. But even the apolitical is subversive here, she says; when Cuban readers flock to lifestyle articles and glossy celebrity magazine covers, they're imagining themselves in a different country. Everything they see in this digital realm—churros recipes, listicles on the secrets of entrepreneurial thinking—is part of a different state of mind, a terabyte of autonomy and desire.

Even though the economy looks better than at any time since 1991, Cuba remains deeply, dangerously reliant on Venezuela's collapsing economy. The heirs of Hugo Chávez have kept the lights on in Havana by granting Cuba 100,000 barrels of oil a day at about half the market price. That effectively hides 45 percent of the island's trade deficit. Venezuela also pays $5.5 billion a year for the almost 40,000 Cuban medical professionals who now make up half of its health-care personnel. Neither support can endure unchanged.

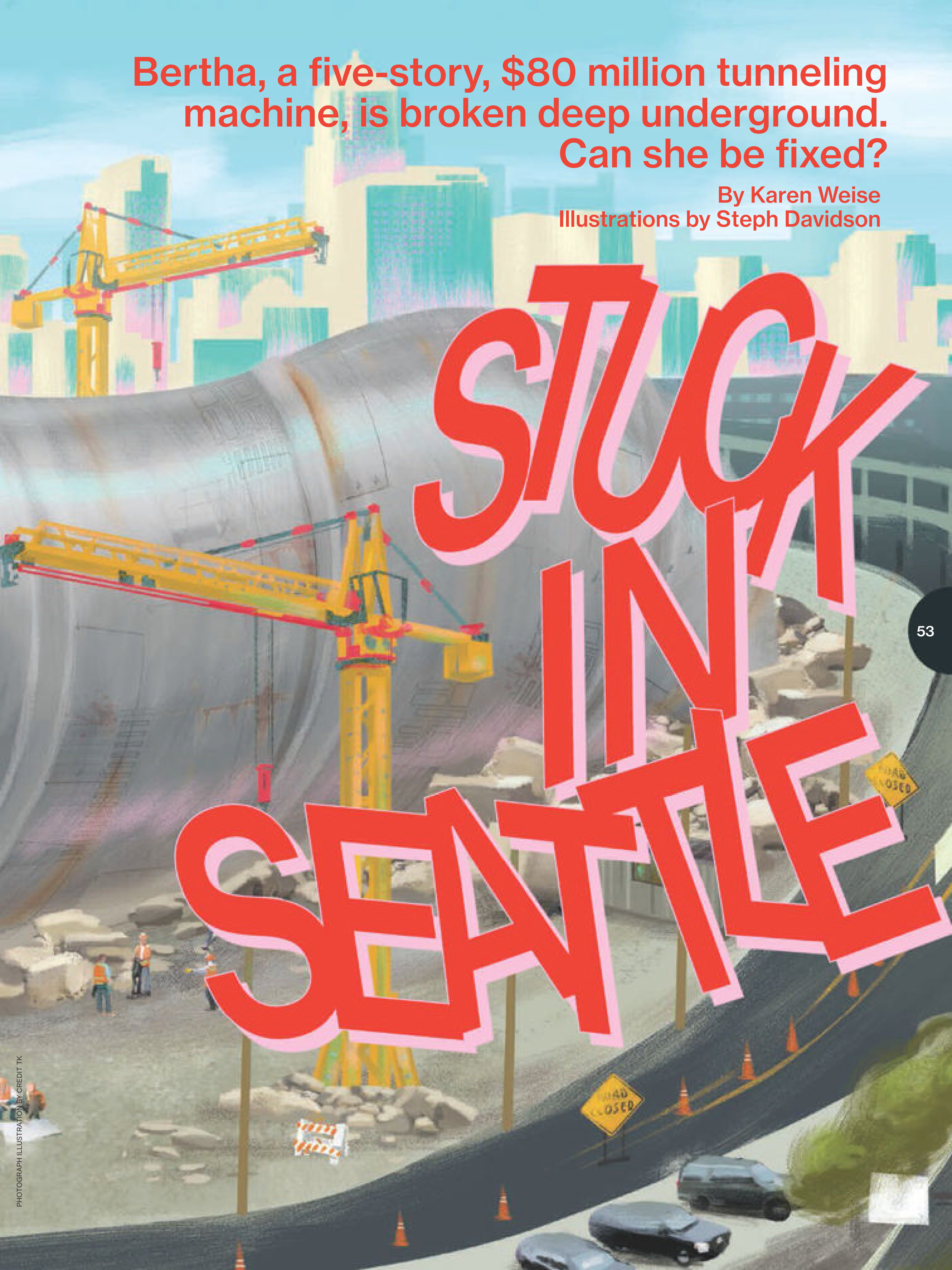
When MasterCard announced it would begin accepting charges from Cuba on March 1, the Cuban government slapped that down. U.S. airlines can now start flying directly to Cuba, or so Washington says—but there will likely be years of negotiations over safety, landing fees, and the reciprocal right of Cubana, a state-controlled, military-operated airline, to land its planes in Miami. The last thing on the Cuban list of reforms is sharing power. The Communist Party reflexively insists that nothing will change in Cuba, ever, but Obama's rapprochement is certain to have an effect. Dissidents, the politically ambitious, and human-rights activists believe that some day they'll be legally allowed to exist and their now-secretive work can become routine. The death of the CUC may turn out to be Day Zero for more than funny money. Ⓑ


友達のバーサを見放さないでください*
*please do not abandon your friend Bertha!!

STUCK IN SEATTLE

Bertha, a five-story, $80 million tunneling machine, is broken deep underground. Can she be fixed?

By Karen Weise
Illustrations by Steph Davidson



PHOTOGRAPH ILLUSTRATION BY CREDIT TK

About 20 workers wearing hard hats and reflective vests clump together on the edge of a chasm near Seattle's waterfront, peering down a hole 120 feet deep and 83 feet wide. The last men have been craned out of the pit in a yellow metal cage. Gulls squawk. A TV news helicopter hovers overhead.

A dozen journalists stand nearby on the bed of a truck. We're here to see Bertha, one of the world's biggest tunneling machines. Or at least a piece of her. A 240-foot crane is about to haul a 540,000-pound steel shield out of the ground, 20 months after Bertha started digging a highway. Almost imperceptibly, the crane starts rising.

The event, on a Thursday in mid-March, is part of a massive rescue mission to fix the $80 million machine. She broke abruptly in December 2013 after boring through just 1,000 feet, one-ninth of her job. Her seals busted, and her teeth clogged with grit and pieces of an 8-inch steel pipe left over from old groundwater tests. She stopped entirely.

The tunnel, with a budget of $1.4 billion and originally scheduled to be finished in November 2015, is two years behind schedule. The state's contractor, a joint venture called Seattle Tunnel Partners (STP), has spent months digging to reach Bertha and crane her to the surface, where a weary Seattle awaits.

Bertha's job is to bury a highway that runs on a structurally unsound elevated road smack in the middle of an earthquake zone. The viaduct, as it's called, follows the shoreline, effectively barricading downtown Seattle from what could be a beautiful waterfront. The tunnel will let most of the traffic travel deep underground; at street level an old freeway will be demolished, and in its place the city will build a boulevard and shoreline park created by the designers behind New York's acclaimed High Line park. The $4.2 billion plan calls for the long-neglected waterfront to come to life; Seattleites can celebrate the glory of Puget Sound, where ferries dash across the bay and the jagged peaks of the Olympic Peninsula jut in the distance.

Everything about the project is gargantuan, starting with Bertha, who is as tall as a five-story building. She runs on a 25,000-horsepower motor and has a head weighing 1.7 million pounds, with 260 steel teeth designed specifically to chew through Seattle's silty soil. She's named after the city's first and only female mayor, Bertha Knight Landes, who served in the 1920s. According to the machine's official state biography, her role models include "whoever invented the shovel." Bertha's got 15,700 Twitter followers, has inspired Halloween costumes, and was once feted by thousands.

After Bertha got stuck, she couldn't back up because she builds the concrete walls of the tunnel as she drills forward. That means the hole she leaves behind is narrower than she is. The contractor has devised a method—itself unprecedented—to repair Bertha by craning her in sections to the surface. After almost a decade of debating the tunnel's merits and three more years of construction, more than a few Seattleites argue that Bertha should be buried where she is, her last rites read, and another plan pursued.

Two Republican state senators proposed cutting off Bertha's funding, declaring the project has failed. As part of an interactive exhibit, the Seattle Art

Museum asked visitors to imagine what Bertha was thinking. Among the responses: "How in the hole did I get here!!!" and "Another billion dollars, please!"

The *Seattle Times* editorial board tried to calm the hysteria. Bertha may be a lemon, they wrote, but the "herculean engineering work" to repair her makes it "too soon for a Plan B." The state and the contractor, united until the bill comes due and the widely expected legal battle over the price tag starts, say they're not abandoning ship. Bertha has become too big to fail.

Megaprojects almost always fall short of their promises—costing too much, delivering underwhelming benefits, or both. Yet from the London-Paris Chunnel to Boston's Big Dig, cities still fall for them, seduced by new technologies and the lure of the perfect fix. A mix of factors has given Seattle a particularly acute sense of angst. The project depends on a singular piece of engineering. And Bertha's building a highway for cars in a city where workers overcrowd buses and commuters wrap themselves in waterproof everything to bike in the rain.

At the construction site, onlookers fall silent as steel cables quietly creep out of the pit. Eventually the top of the arched piece peeks out. "Wow," someone whispers, as camera shutters click. A worker from Japan's Hitachi Zosen, which manufactured Bertha, puts her hands together and makes a small bow. Once the metal shield fully emerges, it hovers over the pit like a hulking rusty rainbow. The crane takes a half-hour to pivot 90 degrees, back up, and gently set the piece down on the ground.

Deep at the bottom of the rescue pit, the guts of the machine—the source of so much trouble—are finally exposed. "So THAT'S what my insides look like," tweets @BerthaDeBlues, one of several parody Twitter accounts. "I'm gonna hurl."

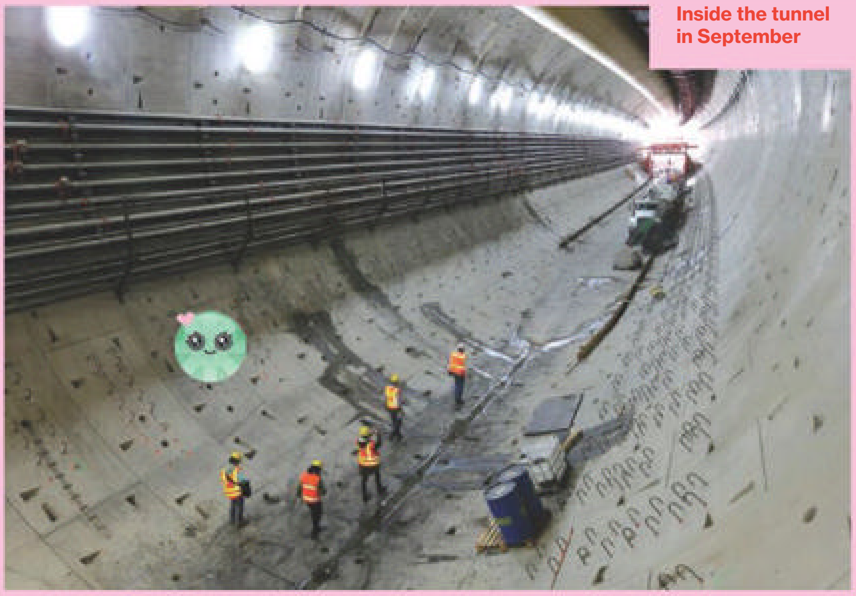
In 2001 the 6.8-magnitude Nisqually earthquake shook Seattle, causing cracks along State Route 99's Alaskan Way Viaduct, the elevated highway that skirts downtown. Everyone agreed the viaduct wasn't safe to keep open much longer. But true to the so-called Seattle Process of inclusive and abundant dialogue, what should replace the roadway was ferociously debated.

At first there were two main options: a new elevated structure or a shallow tunnel roughly 50 feet below ground. The elevated option was simpler, but it meant there'd still be an unsightly highway running along the waterfront. The tunnel would free up the landscape, but it would be built using a "cut and cover" technique, which tears up the streets and, as anyone familiar with the Big Dig knows, is tremendously disruptive.

Seattle voters roundly rejected both options in 2007 in what Cary Moon, a local urban designer, says amounted to a "No, and Hell No!" vote. She, along with other artists, environmentalists, and community activists, pushed another idea to the fore: tear down the highway and don't replace it. They pointed to evidence that new roads increase traffic rather than ease the crush, a phenomenon known as induced demand. "When roads are built you just think, Oh, I can now go to that mall, or I can sign up for that soccer camp," Moon says. "In aggregate, those decisions add up to a lot of car traffic."

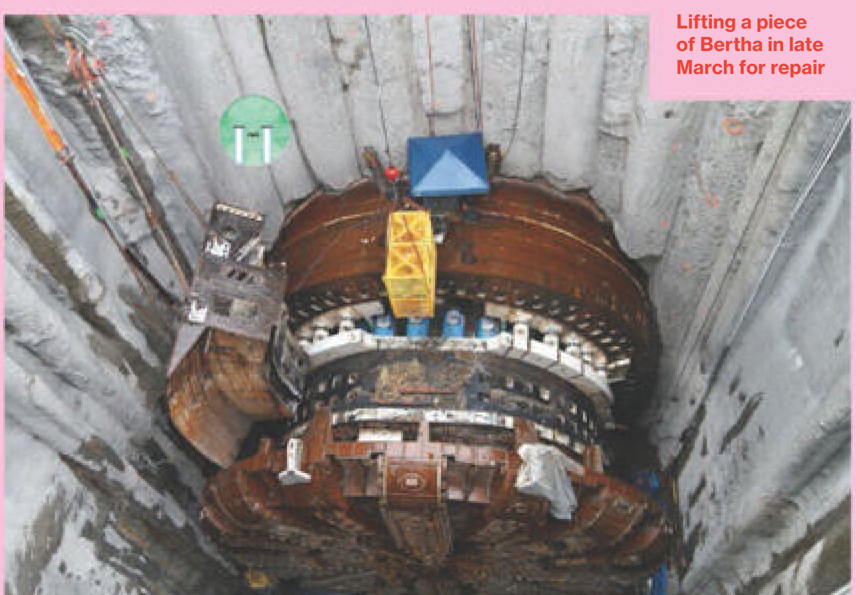
Moon's coalition said Seattle should follow New Urbanist examples, such as Seoul, Milwaukee, and Portland, Ore., that replaced highways with smaller surface streets, public parks, and dedicated lanes for mass transit and biking. Instead of seeing gridlock, those places found car trips declined as people opted for other means of transport or changed their plans and didn't travel as far. San

The question of Bertha's breakdown is as much a financial problem as an engineering one



Inside the tunnel in September

The repair site in February



Lifting a piece of Bertha in late March for repair

FROM TOP: TED S. WARREN/AP PHOTO; COURTESY WASHINGTON STATE DEPARTMENT OF TRANSPORTATION (2)

Francisco's Embarcadero was an oft-cited example. Like Seattle's viaduct, the double-decker roadway carried more than 100,000 vehicles a day. After the 1989 Loma Prieta earthquake, San Francisco tore down the heavily damaged elevated road and constructed a boulevard with a streetcar and waterfront promenade. It helped revitalize the South of Market neighborhood, now beloved by tech start-ups, and trips on mass transit in the area increased 75 percent in a decade, according to a 2007 study.

Seattle's business interests dismissed the idea. "It was all about a pretty waterfront park," says Bruce Agnew, director for the Cascadia Academy, a regional think tank. He and others feared cars would clog downtown streets and nearby Interstate 5, a major thoroughfare. They worried about the 4,000 freight trucks that run on the viaduct each day. Agnew helped revive an idea the state had previously deemed too pricey: a deep-bore tunnel, mined by a custom-built machine that digs without tearing up surface streets.

Cascadia, funded with $9 million from the Bill & Melinda Gates Foundation, is part of a local conservative group known for promoting "intelligent design." It joined with global engineering company Arup to develop the tunnel idea. Arup produced a study that showed that boring costs had come down, though the study said it didn't adjust for inflation and included estimates for tunnels not yet built. Cascadia hosted a conference with 100 guests, largely from companies that design and build deep-bore tunnels around the world. "They basically said that the technology had advanced so much in the past few years," says Agnew.

In late 2008, as a committee appointed by the governor was closing in on supporting the Embarcadero approach, Cascadia's analysis provided the groundwork for the chamber of commerce and other business interests to push for a deep-bore tunnel. They trumpeted a "Tunnel + Transit" plan, which included $190 million in additional transportation investments, such as new rapid bus lines. Because the tunnel would be so deep, it couldn't have any local exits in downtown, which accounts for about 40 percent of the viaduct's traffic.

Bob Donegan, president of Ivar's, a local chain of restaurants with a flagship location on a pier where the future waterfront park will be, helped build political support. "We brought in the agriculture interests from Eastern Washington who said we need to get our wine and apples to the port," he says. The American Automobile Association of Washington, labor unions, and real estate developers backed the tunnel, he says, as did Boeing, which has major facilities north and south of Seattle. "They made it very clear that if all of that traffic goes through I-5,

“The optimism was so pure. That was hugely deluded”

we will do commerce somewhere else,” he says. Boeing declined to comment.

The tunnel’s proposed path showed just how many constituencies the project had to please. Its southern portal dives below ground by an industrial zone that includes the fourth-largest port in the country. It then runs under downtown and reemerges in the South Lake Union neighborhood, where Amazon.com has snapped up block after block.

In January 2009, then-Governor Christine Gregoire, then-King County Executive Ron Sims, and then-Seattle Mayor Gregory Nickels publicly threw their support behind the deep-bore tunnel. Republican legislators, largely from suburban and rural districts, had little interest in funding a risky tunnel for the city, so Ed Murray, now Seattle’s mayor but in the legislature at the time, brokered a compromise: The state would pay $2.8 billion. The rest would be covered largely by the city, the port, and the federal government. If the tunnel ran over budget, the bill read, extra costs “shall be borne by property owners in the Seattle area who benefit” from the tunnel. Clark Williams-Derry, a researcher at Sightline Institute, an environmental think tank, says it amounted to the statehouse saying: “If Seattle wants its latte-filled tunnel, they can build it themselves.”

If Bertha was now conceived, her gestation period would last four more years through environmental reviews, protest-filled hearings, and two new mayors, one elected largely on an anti-tunnel platform. In the public airing, the challenges and risks of a deep-bore tunnel were becoming clearer. The *Stranger*, a local alt-weekly, summed up the anxiety in a 2010 cover story with a memorable opening line: “You’re about to get f-----, Seattle.”

Tunneling machines like consistently firm conditions across the drilling face. “The risk is very much associated with how you expect the ground conditions to vary,” says Andrew Whittle, a soils expert who heads Massachusetts Institute of Technology’s civil engineering department. The wider the tunnel, the more likely it is for one part of the drill to encounter little resistance while another meets tougher stuff. Initially the Seattle plan called for two smaller bores, one in each direction, but that was too costly.

Making one tunnel with two levels of traffic was cheaper but meant pushing the diameter to an unprecedented 57.5 feet.

The Washington State Department of Transportation’s consultants identified eight different ground conditions in the tunnel’s path, including abrasive soil that can wear down a machine’s teeth; clay-like silt; and boulders up to 8 feet in diameter, deposited by glaciers more than 10,000 years ago. The southernmost stretch of the tunnel runs along Elliott Bay, where water ebbs and flows through the soil with the tides, in a consistency Donegan calls “softer than a milkshake.”

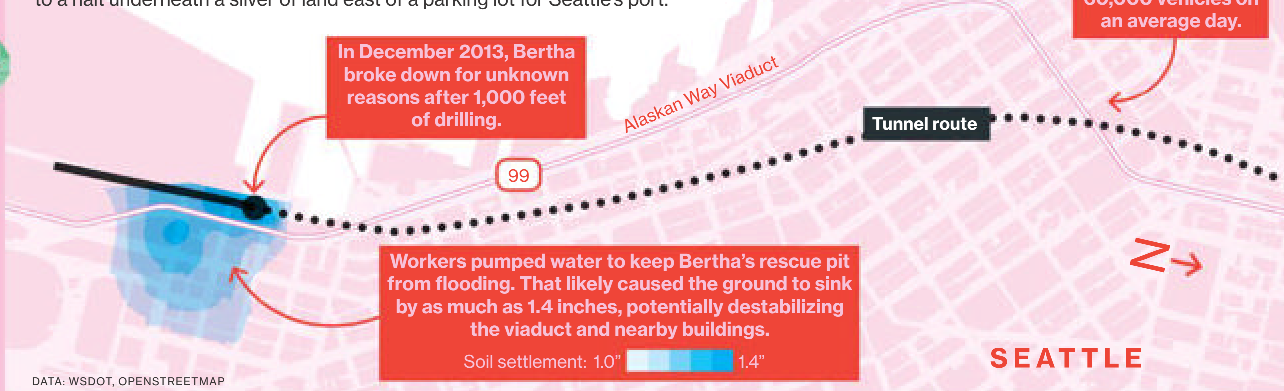
The tunnel’s path also runs so deep, up to 215 feet below ground, that it faces groundwater pressures about four times greater than at sea level. There are even pressure variations between the top and bottom of the boring machine. At five stories tall, it’s like the difference between being able to snorkel or needing scuba gear. The state, guided by an army of consulting firms, said it was aware of and could prepare for the risks.

WSDOT awarded a $1.4 billion design-build contract to STP, a joint venture between Tutor Perini, a California-based construction company with $4.5 billion in annual revenue, and Dragados USA, the local division of a Spanish company with an expertise in tunneling. The thousand-page contract outlines the exact requirements for the tunnel but leaves STP responsible for most of the design and construction, an arrangement intended to shift risk away from the state. STP beat out another consortium in part by estimating it could finish the project by December 2015, 11 months ahead of the state’s schedule. It was time to stop hyperventilating, the state said. “With this contract, we are confident that the tunnel will be built within budget and delivered on time,” declared Paula Hammond in 2011, then the head of WSDOT. (She left in 2013 for the engineering firm that led the reviews.)

STP decided to buy the tunnel-boring machine from Hitachi Zosen, and in December 2012 school kids christened her Bertha. She uses pressure to keep soft earth from seeping into spaces where humans work and sensitive machinery is located. Her cutter face rotates like a cheese grater, chewing up and pushing soil into a cavity, where it’s mixed with an additive to make it the consistency of toothpaste. A massive corkscrew acts like her digestive tract, channeling the muck to a conveyor belt that carries it out the back of the tunnel to be barged away.

Busted Borer

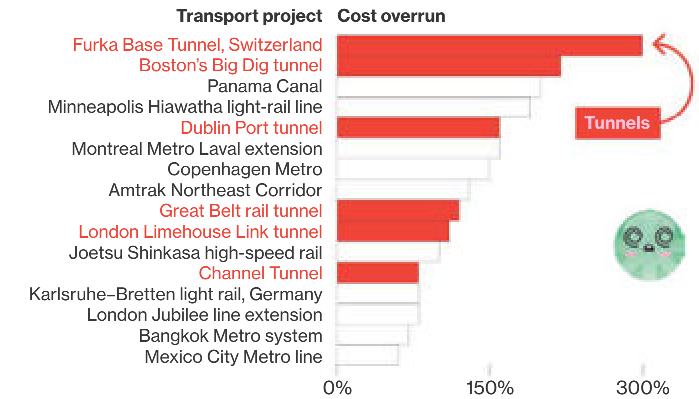
With 12 percent of her mission completed, the $80 million tunneling machine ground to a halt underneath a sliver of land east of a parking lot for Seattle’s port.



DATA: WSDOT, OPENSTREETMAP

Sunk Costs

According to Oxford professor Bent Flyvbjerg, megaprojects in the past 70 years have consistently come in over budget while delivering less than half of their promised monetary benefit.



DATA: FLYVBJERG 2014, "WHAT YOU SHOULD KNOW ABOUT MEGAPROJECTS AND WHY: AN OVERVIEW"

Wide Load

Stuck 120 feet underground, Bertha is the largest tunnel-boring machine in service.

As Bertha drills, her robotic arms install precast concrete rings that create the tunnel's permanent walls. Once she installs a ring, she pushes off it with hydraulic legs to continue her forward thrust. She drags about 300 feet of equipment behind, including lunchrooms and hypobaric chambers so workers can make repairs in pressurized areas and not get the bends.

Bertha arrived by sea from Osaka in 41 pieces and was reassembled in Seattle, then lowered into a launch pit 80 feet deep and 400 feet long. In July 2013, 5,000 people went to Bertha's send-off, complete with confetti and food trucks.

In early December 2013, after she'd mined about 1,000 feet, Bertha started overheating. Why exactly Bertha wasn't up to the task isn't clear, at least to the public. WSDOT has said it's STP's problem if Bertha couldn't handle the ground conditions it laid out in the contract. But STP has already submitted a change order saying the conditions differed from what WSDOT told them. Hitachi Zosen declined to comment,citing a confidentiality agreement. The question of Bertha's breakdown is as much a financial problem as an engineering one, to be challenged through a dispute review board and, potentially, in court. "The lawyers will have a field day with this," Donegan says.

Bent Flyvbjerg, a professor at Oxford's Saïd School of Business, has followed Bertha from afar. His research on megaprojects has been cited by both backers and critics of the tunnel. Nine times out of 10, massive infrastructure jobs go over budget, he says. Tunnels on average cost 34 percent more than anticipated. No region is better at predicting costs, and estimates over the past century haven't become more accurate, his data show.

Flyvbjerg recalls reading how WSDOT said taxpayers won't end up having to pay for any cost overruns. "When I saw that statement, I said, 'Oooh, that is really a risky thing to say,'" he says. "It is very common that taxpayers' money ends up covering it, even though people think that they have a contract that prohibits it. The difference between the Seattle project and other projects was that the optimism was so pure. That was hugely deluded."

A year ago, STP estimated the repairs could total $125 million, but that was when the rescue was supposed to be done around Labor Day 2014. STP's latest timeline is almost a year later. In a joint interview, Matt Preedy, the state's deputy program administrator, and Chris Dixon, STP's project manager, deflect questions about the costs. What's the latest repair estimate? "Costs are being incurred; we don't have a projection as to what the total costs will be," Dixon says. Has the work to date already exceeded the original $125 million estimate? "We're not in a position right now to further elaborate on costs," Preedy says. Can you understand why that may frustrate taxpayers, given the uncertainty over who'll pay? Six seconds of silence, finally broken by a press officer: "I don't know how you expect them to answer that question."

Ultimately, Preedy stays on message, saying, "Those contractual issues will be worked out in time. Right now the focus is on completing what we started, getting the project done, safely."

As parts break, delays mount, and costs rise, government mistrust has set in. "People are really dubious about all of the claims," says Moon, the landscape designer. "Claims that they can fix it. Claims that we won't have to pay for it. Claims that it is going to have no trouble boring again. They have lost credibility on all of those fronts."

In mid-March, as journalists wait for Bertha's shield to come out of the ground, Governor Jay Inslee is on Reddit, holding an Ask Me Anything session. "Hi Governor Inslee!" writes holierthanmao. "As a Seattle resident, I have to ask, what is plan B if this whole 99/Big Bertha project becomes a loss? There has to be a contingency plan, right?" Inslee responds that there's no backup plan–yet. He says they're focusing on holding STP to its contract to deliver the tunnel: "We have to insist they finish the job. Period."

It's also unclear whether the project will fulfill its original promise. Seattle has scaled back the waterfront park, saying the delay raised costs. And the $190 million in transit investments still isn't funded. Chris Arkills, the transportation policy adviser for King County, which includes Seattle, says the legislature hasn't given the county the taxing authority it needs.

On March 30, the TV chopper is in the air again, watching as one of the largest cranes on the West Coast slowly hauls Bertha's 4 million-pound cutterhead and drivetrain up to the surface. Next, STP will install a new system of seals, replace Bertha's main bearing, and reinforce her with 160,000 pounds of steel. Assuming repairs go well and Bertha starts drilling again, her path will soon turn east, directly under the unstable viaduct. She'll then veer north, under downtown. While STP can dig a rescue pit now with minimal disruption to the city, that won't be the case if she breaks down again farther along the route. Ⓑ

—With Kiyotaka Matsuda

HUGE HOT DOGS / GOOGLE'S SELF-HELP BOOK / YOUR NEW DETOX / MAD MEN'S COSTUME DESIGNER

ETC

BOOZING WITH DONKEY KONG

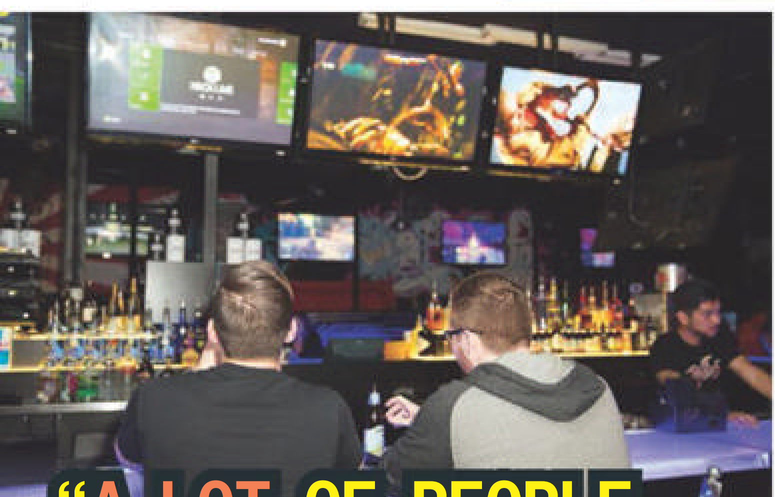
Arcade bars have risen in most U.S. cities, driving up vintage game prices and giving Gen Xers a new (very old) screen to stare at

By Brad Stone

Illustration by QuickHoney

It's midafternoon on a Saturday, and most bars in Atlanta's Old Fourth Ward sit empty. But the Joystick Gamebar on Edgewood Avenue is hopping. About two dozen adults, mostly in their 40s and 50s, crowd the retro arcade games lining the wall, dropping quarters with a satisfying clink into Centipede and Space Invaders. Everyone is sipping pints of craft beer. "Well, it's confirmed, I suck as bad at Defender as I did in the '80s," one man shouts to no one in particular.

Arcades are dead. They perished in the early 1990s along with shoulder pads, fax machines, and dignified nightly news anchors. The primary culprits were home-video consoles such as PlayStation and Xbox, helped by the Internet and the fact that hanging out at malls became uncool. Now a new breed of arcade bars is suddenly everywhere; pick an American city, and it's likely that one opened in the last few years. There's the Coin-Op Game Room in San Diego, Supernova in Colorado Springs, and Zanzabar in Louisville. New Orleans has a Barcadia; Des Moines, Barcadium; and New York, Barcade. Last March a bar called Eighty Two, named for an epochal year of the arcade boom—Ms. Pac-Man, Pole Position, and Donkey Kong Junior all bowed then—opened in downtown Los Angeles. On weekend nights, lines to get in wind around the block. "A lot of people appreciate having another stimulus at a bar besides drinking as much as they can," says Scott David, 34, one of Eighty Two's owners.



"A LOT OF PEOPLE APPRECIATE HAVING ANOTHER STIMULUS AT A BAR BESIDES DRINKING AS MUCH AS THEY CAN"

Most arcade bars function as time capsules for Gen Xers who don't have the attention span for today's intricate smartphone and console games. With local brews on tap and stripped-back décor, they draw the same guys who got repetitive stress injuries playing identical machines as teenagers. But the ubiquity of such spots goes beyond pure nostalgia. People spend their lives isolated, staring into screens. The natural solution is to seek places where they can also stare into screens, but together with friends competing in four-player melees. "People just love the multiplayer games like the Simpsons or Teenage Mutant Ninja Turtles, where they can play with their friends in a group setting," says Jeffrey McEachin, one of the founders of Ground Kontrol in Portland, Ore. "We think this is a huge trend." (The arcade bars don't reveal revenue or profits, but the crowds and sprawl suggest the concept is working well.)

Contemporary game designers now have a sophisticated digital toolbox to produce intricate games that thrust players onto a football field or into a battlefield. It's like real life but with license to gun people down indiscriminately. Thirty years ago, game makers had the equivalent of an old rusted screwdriver at their disposal. So what they came up with had to be imaginative and weird enough to suck in players and their coins. "Certainly if you try to describe Q*bert to someone, it just sounds bats--- insane," says Demitri Fregosi Powers, 34, a regular customer at Ground Kontrol who considers himself an expert at the 1982 game. (The simple premise of Q*bert, you may recall, is to jump up and down a pyramid of cubes, changing the color of each cube before monsters get you.) "It starts to feel like a story, even if it doesn't make any sense," Fregosi Powers says.

Most enthusiasts credit Ground Kontrol with kicking off the trend. In 2003 three friends, customers of what was then an ailing music store, decided to buy out the Portland establishment. The place had a few classic games, but they were constantly breaking. The new owners were all engineers and tinkery '80s kids who knew how to fix them. "Once we got into running the business, I noticed it would clear out every night at about 8 or 9 p.m.," says McEachin, 52. "So we thought, maybe we should retain our customers by serving alcohol." Ground Kontrol soon moved into a location with a bar in Portland's Chinatown and started adding to its game collection. Now it

PHOTOGRAPHS BY BRAD SWONETZ FOR BLOOMBERG BUSINESSWEEK

You Can't Beat Pac-Man

Barcade's Kermizian stocks more than 300 games at his five locations. Below, he catalogs the most popular ones and their cost. —*Katie Van Syckle*

1. Ms. Pac-Man

Going rate: $800

"It's a great game to run, because it's easy to find parts for and made like a tank."

2. Donkey Kong

Going rate: $2,500

"Nintendo's ultimate classic that you have to have. Prices have gone through the roof since *King of Kong*—a documentary about a guy trying to break the world record."

3. Daytona USA

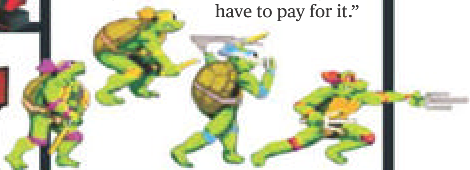
Going rate: $1,200 (twin model)

"The '90s driving game comes in a single-driver and twin model. The latter is more desirable, but they are constantly breaking, and there are lots of parts."

4. Teenage Mutant Ninja Turtles

Going rate: $1,000

"Four people play it at once, with a common goal to beat the bosses. You keep going, and you keep putting money into it. You can win, but you have to pay for it."



5. Terminator 2: Judgment Day

Going rate: $800

"You've got Arnold saying, 'You've been terminated.' And as you're shooting he gives commentary, which is awesome."

6. Tapper

Going rate: $2,000

"You're a bartender, and you're serving beer to unruly customers. The original version was Budweiser-sponsored, and everything is branded Budweiser. The character was recently in *Wreck-It Ralph*."

7. Bubble Bobble

Going rate: $600

"We were looking for a Bubble Bobble since we opened 10 years ago, and only a couple of times have I ever seen someone selling a complete cabinet."

8. Rampage World Tour

Going rate: $600

"You play with three people: There is a lizard, a big ape, and a wolf. It's the original quarter eater."

9. Neo Geo MVS Arcade System

Going rate: $800

"A cabinet that has a motherboard, and it has slots for cartridges, so you can run four or six different games. We can rotate the titles—mostly puzzles similar to Tetris—easily."

10. Star Wars/ Empire Strikes Back Cockpit

Going rate: $4,000

"It has big art on the side with Darth Vader. That's hard to resist."

displays more than 60 classic games and 27 pinball machines.

Across the country at around the same time, a graphic designer named Paul Kermizian left his job to open Barcade in Williamsburg in Brooklyn, N.Y. Kermizian, now 40, was a collector of classic arcade cabinets, which he'd crammed into his loft and dispersed among accommodating friends. Bars historically had one or two video games, but he dreamed of a place with a much better selection—a sort of Dave & Buster's where adults might actually want to go on dates. To get it up and running, he and three pals spent their life savings and maxed out credit cards to lease a property, secure a liquor license, and buy and repair inventory. Since 2011 he and his partners have opened two Barcades in Manhattan, one in Jersey City, and one in downtown Philadelphia. They employ 85 people and have had to protect the Barcade trademark against imitators more than 100 times, even sending dozens of cease-and-desist letters to other bar owners. "It's a weird business model," Kermizian says. "I never thought it would work this well."

That's not to say these bars don't face challenges. The old games tend to have the reliability of a '67 Chevy and must be constantly monitored and fixed. The manufacturers mostly don't exist in their old incarnations, and no one makes the old parts, like the chunky cathode-ray monitors and lead-plated joysticks, so constant improvisation is necessary. Some proprietors just upgrade the machines, subbing in spring-loaded joysticks and flat-panel displays, but others consider that heretical. "We feel like it ruins the experience," says McEachin, who spends about 10 percent of his game income maintaining and cleaning the machines.

Others have tried to bring the concept upscale and been less successful. Shawn Vergara owns the popular Blackbird bar in San Francisco's Castro district. After his nephew told him about Supernova in Colorado Springs a few years ago, he started researching the trend, traveling to check out bars in San Diego and Brooklyn. Last December he opened Brewcade in the Castro. Vergara, 46, had to lobby San Francisco's city council to change a decades-old ordinance that limited the number of arcade games in a single establishment to 10 and stipulated that games couldn't be turned on before 3 p.m. (meant to combat teen delinquency in the '80s). He knew nothing about fixing old games, so he subcontracted the work to a local pro, nicknamed Video Bob. Early reviews of the Brewcade on Yelp have been mixed, with customers complaining about broken machines, limited selection, and the inclusion of newer "multicades," which offer dozens of games in one box. These can be sacrilegious to purists. Although the bar is crowded on weekend nights, it's fairly quiet other times. "I thought it would be easier to get off the ground here," Vergara says.

The concept has flat-out failed in other cities. In 2011, Chris LaPorte opened the 7,000-square-foot Insert Coin(s) in Las Vegas, which draws 1,000 visitors a night. A few years later, when his business partners tried the concept in Minneapolis, it closed within a year. LaPorte, 38, says the space was too big, so it felt empty and devoid of energy. "You can't get too greedy and make it a huge supercenter," he says.

As new bar owners look to get in on the action, they're also driving up prices of the old games. "The days of coming across a dusty old cabinet at a flea market or garage sale are largely behind us," says Art Santana, 32, another member of the Ground Kontrol brain trust. Rarer games such as Atari's 1985 Paperboy, where you ride a bike and fling newspapers at homes while avoiding plants and dogs, can go for thousands of dollars, up from a few hundred a decade ago. While a vintage Donkey Kong cabinet fetched about $600 a few years ago, LaPorte says private collectors now routinely sell them for $2,500.

The investment's still worth it. Bar owners say the quarters add up, paying for game upkeep and complementing the real revenue source: bar food such as nachos and chili cheese fries and $7 craft beers. Of course, the games also offer gratification to a dedicated audience of overgrown kids who grew up in darkened rooms, shelling out quarters and staring at screens. Those hard-won skills are finally useful again. Back at the Joystick Gamebar in Atlanta, amid shrieking adults and jukebox tunes, I sidled up to 1979's space shoot'em-up Galaga. Twenty-five cents and 15 minutes later, I achieved something I hadn't in at least three decades: a high score. Ⓑ

ABOVE: ATARI; BEEBLEBROX; GETTY IMAGES (2); MIDWAY GAMES; SEGA; YOUTUBE (4)

LaPorte at his bar in Las Vegas

Clockwise from top left: **Wallace & Barnes** chore coat, *$218*; **Paul Smith** crewneck, *$240*; **Theory** Zaine pant, *$195*

Valentino silk blazer, *$2,290*; **Warby Parker** Haskell glasses, *$95*; **Turnbull & Asser** shirt, *$425*; **Burberry London** lapis tie, *$165*; **A.P.C.** raw new standard jeans, *$185*; **Jack Erwin** Archie loafer, *$195*

Junya Watanabe denim patchwork jacket, *$1,045*; **Kiton** pants, *$1,411*

Band of Outsiders pocket patch anorak, *$1,900*; **Paul Smith** London shirt, *$290*; **Incotex** trousers, *$205*

Michael Bastian Southwest chest stripe shirt, *$475*; **J.Crew** tapered trouser, *$95*; **Givenchy** silver chronograph watch, *$1,100*

The Generic Man academy shoes, *$350*; **Boss** virgin wool pants, *$325*

A shirt-jacket—think of it as a heavier button-up—works in place of a blazer at casual offices.

Goes across the front, too.

The spring collection from cult Japanese designer Junya Watanabe was entirely patchwork this year.

PATCH THINGS UP

Update your spring work wardrobe with pieces that blend different patterns and textures

Because you wear a raincoat less often, go bold with the color.

It's a pocket, but better not to use it. Always tuck in the shirt, though.

Clockwise from top left: **Miu Miu** skirt, *$1,760*, and belt, *$305*; **Rodebjer** Centauress shirt, *$265*; **Marc by Marc Jacobs** watch, *$225*

Marc by Marc Jacobs patch shirt, *$238*; **J.Crew** shiny leather pants, *$895*; **Jennifer Fisher** small bar earrings, *$210*; **Arme De L'Amour** bracelets, *$300 for set*

J.Crew floral short, *$198*; **Tod's** denim blazer, *$1,345*; **Equipment** silk blouse, *$218*; **Michael Kors** watch, *$250*

Baldwin patchwork jeans, *$286*; **Belstaff** Maxem long trench, *$1,450*; **Christian Louboutin** Pigalle pumps, *$675*

Paul Andrew x Tanya Taylor block heels, *$895*

Dries Van Noten Damara Des B dress, *$1,580*; **Cartier** light pink handbag, *$2,530*; **Paul Smith** shoes, *$980*; **Nixon** small Kensington watch, *$175*

Most denim makers currently offer patchy styles like this—they flatter in both skinny and wider "boyfriend" cuts.

Wear an ankle-skimming dress with block heels for a professional take on the maxi.

Tiny flowers on the heel!

MARKET EDITOR: SHIBON KENNEDY; PHOTOGRAPHS BY ADAM KREMER FOR BLOOMBERG BUSINESSWEEK; HAIR AND MAKEUP: REBECCA GARCIA

ISN'T GOOGLE AWESOME?

The company's head of human resources tries to teach you to act like his best employees. By Will Leitch

Twice in the first 22 pages of *Work Rules! Insights From Inside Google That Will Transform How You Live and Lead*, a book by the company's "head of people operations," Laszlo Bock, it's mentioned that those who work at Google are called "Googlers." Both times it's brought up, once by Bock and once by Google co-founder Sergey Brin, great pains are taken to make it clear that Googlers have self-designated this assignation—they call themselves that, we're assured, and it's definitely not the sort of thing they'd feel pressure from above to adhere to. Not at all. They call themselves that! Who are we to stop them?

Maybe you know someone who works at Google. Try an experiment: Start up a conversation with a Google friend, and begin to refer to her exclusively as "a Googler like yourself." Wait to see how long until the person stops and asks what you're talking about. Mine took 45 seconds.

The funniest takeaway from this book is not that Google is a cult, because it isn't. It's an extremely successful business. The joke is that Bock wants Google to be a cult, even as its employees, its Googlers, are normal people who work at a company that makes money because it's excellent at indexing things on the Internet. It's sort of mundane, but the author and others have convinced themselves it's a calling. Bock came to Silicon Valley 15 years ago, from General Electric, and he's directly tied to what Google's become in those years. He claims to have personally looked at every résumé submitted since he arrived.

Work Rules! is textbook-like, meant to teach airport browsers to Googleify their own offices. Chapters end with check-marked tips such as "Find ways for people to shape their work and the company" and "Choose to think of yourself as a founder: Now act like one." These maxims attempt to show how Google differs from other corporations in both construction and execution. But the book makes a better, unintentional argument that Google is like every other workplace. It has a product that people want and that it can sell. Bock, too close to the center of it all, thinks this isn't because of the product; it's because of the culture.

So he will start a chapter with a problem—say, how to find the best employees—then toss out examples of how other places do it wrong. He particularly loves to note when Yahoo!, run by Marissa Mayer, a former Googler herself, messes up something.

Take interviewing: Most companies let their managers make decisions on hiring, but Google has a universal system, horrifically called qDroid, that produces algorithmic questions meant to tease out various attributes of applicants. Bock concedes that the questions are often rote, but "it's the answers that are compelling." So compelling, in fact, that Google "scores" the responses with "a consistent rubric" it calls Behaviorally Anchored Rating Scales. He's certain this automated process, which takes months for most applicants to complete, brings in the "most superb candidates." Google does get top employees, but you have to be squinting pretty hard to think this is the right way to find them. The reason it has talented workers is that it's a multibillion-dollar company that pays extremely well.

It's hard not to be impressed by Bock's relentless optimism. At one point he quotes Tolstoy's "All happy families resemble one another," while he omits the more famous "Each unhappy family is unhappy in its own way." He also has a tendency to inflate his own importance at the company. You don't get to run "people operations" by coding your brain out, so he rarely mentions the many actual products his company makes. (Poor Google Glass slips by only once.)

By the end, Bock comes across as just another human resources guy, albeit one who's discovered that, because he works for a company that feels like The Future, people will listen to his theories about human nature. Foremost: Bring your dog to work and be happier. As he extols his teachings, Bock worries that people will see Google as a "forced-march funhouse." If they do, it's his own fault. B

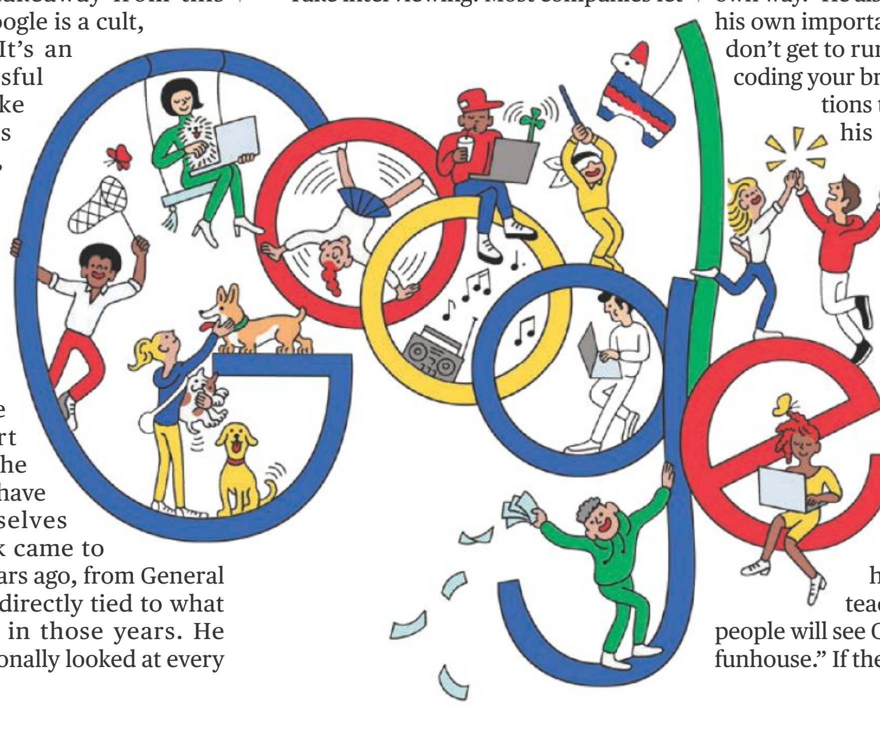


ILLUSTRATION BY TOMI UM

Dark Detox

Toothbrushes, black juice, and other products touting the cleansing benefits of activated charcoal
By Maridel Reyes

What is activated charcoal?

Once used by poison control centers, it's made by treating the regular stuff—made from wood, coconut shell, or other organic materials—with a gas that renders the charcoal highly porous. It then absorbs compounds and chemicals that come in contact with it.

Schoolhouse Electric & Supply charcoal toothbrush
$8; schoolhouseelectric.com
The Japanese brush's bristles help fight bad breath and plaque and prevent bacteria growth.

Sephora Collection bamboo charcoal blotting papers
$8; sephora.com
These thin, double-sided gray sheets eliminate shine without messing up makeup. In addition to absorbing oil, charcoal is antibacterial and antifungal.

Boscia konjac cleansing sponge
$15; boscia.com
This pillowy sponge, made from the root of the konjac plant, is infused with bamboo charcoal to clean your face without soap. Makers claim it draws out impurities and banishes acne.

Origins active charcoal body wash
$23; origins.com
Scented with spearmint to invigorate your morning shower, it supposedly unclogs pores, leaving behind smooth, blemish-free skin.

Juice Generation activated juice
$9.99; juicegeneration.com
After tracking beauty trends last fall, the company released three cold-pressed juices, each containing 2 teaspoons of tasteless charcoal made from coconut shells. The bottles are flying off shelves among those who believe the drink detoxifies organs.

Sort of Coal bincho glass water bottle
$95; sortofcoal.com
Like a Brita pitcher, only chic: The 1-liter glass carafe comes with a stick inside that naturally filters tap water. It removes 75 percent of chlorine and adds healthful minerals such as potassium and magnesium.

Ever Bamboo shoe deodorizer
$9.99; everbamboo.com
Place inside your shoes to deodorize and remove moisture. The pads will get clogged in a month or so—place them under direct sunlight outside for three hours to re-up their power.

PHOTOGRAPH BY TRAVIS RATHBONE FOR BLOOMBERG BUSINESSWEEK

The Texas Rangers' Boomstick is 2 feet long and has more than 2,700 calories

BASES LOADED

Baseball stadiums are wooing fans with absurd, calorie-laden concession fare
By Claire Suddath

When the Texas Rangers play their home opener on April 10, it won't be a new pitcher that gets people cheering in the stands. Instead, the Rangers' ballpark is advertising a different kind of MVP. It's called the S'mOreo—or was, until Nabisco asked the team not to invoke the Oreo name—and consists of a graham-cracker-crusted marshmallow squished between two cream-filled cookies. It's deep-fried in sweet batter, then served six to an order for $8.

"Our patrons have become more food-savvy," says Casey Rapp, operations manager at concessions company Delaware North, which supplies the Rangers' food. The as yet un-renamed fried s'more is sold at a new State Fare stand, which also serves deep-fried Twinkies, funnel-cake french fries, and other Frankenfoods typical of the Texas State Fair. Nearby, a booth called Just Bacon offers items wrapped in, topped with, or drizzled over pork fat.

It's not just a Texas thing. The Arizona Diamondbacks recently brought out the Churro Dog, a churro wrapped in a doughnut and topped with frozen yogurt and caramel sauce. The Cincinnati Reds have a deep-fried hot dog topped with salami; the Milwaukee Brewers, a pulled-pork-and-mashed-potato parfait. The Minnesota Twins announced a bloody mary topped with a slice of pepperoni pizza. All look as if they belong on a Guy Fieri TV special, which is the point. "Thanks to the 24-hour cooking channels, food has become a significant way people enjoy life," says Carl Mittleman, sports and entertainment president of food service company Aramark, which makes food for 28 U.S. sports arenas.

"OUR PATRONS HAVE BECOME MORE FOOD-SAVVY"

Baseball, with its outdoor stadiums, long daytime games, and abundance of beer, is a good match for this kind of gluttony. Aramark says fans spend about 25 percent more on food and beverages than they did five years ago. Even as attendance at games has decreased since the recession—about 73.7 million seats were sold last year, according to statistics site Baseball-Reference.com, down 7 percent from 2007—the snacks have become a draw on their own.

The Rangers learned this in 2012 when the stadium introduced the Boomstick, a 24-inch hot dog smothered in chili and nacho cheese that costs $26. Within a year they'd expanded to 24-inch quesadillas, kabobs, and something called the Tanaco, a taco in a 2-foot tortilla. "The first thing people do when they see a Tanaco is whip out their cell phone and take pictures," says Shawn Mattox, general manager for Delaware North. Obviously, those images get eaten up by social media, much in the way that IHOP's cheesecake waffles or Olive Garden's never-ending pasta bowl went viral last year.

Before this, many teams were going in an opposite, fancy direction. In 2009 the New York Mets' Citi Field, also operated by Aramark, opened booths run by Shake Shack's Danny Meyer and a 350-seat restaurant by Drew Nieporent of the sushi chain Nobu. Upscale foods allowed vendors to raise prices—Citi Field's Catch of the Day stand has $17 lobster rolls—and the trend spread nationwide to Minneapolis's Target Field (with a lamb-and-goat burger) and Atlanta's Turner Field (with two outposts of the gastropub Holeman & Finch). The West Michigan Whitecaps, a minor league team associated with the Detroit Tigers, began offering more expensive, healthy options such as gourmet salads and hummus plates.

But too few people bought the high-end meals. "We had to sell ice cream at the stand just to make money," says Mickey Graham, the Whitecaps' director for marketing. So the team switched to chocolate-and-bacon tacos and a 5-pound, 4,800-calorie burger that was featured on the Travel Channel's *Man v. Food*. "A year from now people might not remember the score," Graham says. "But they will remember a 5-pound burger." This year it will sell alongside Nutella poppers, chorizo oysters, and beer-amisu—tiramisu with craft beer poured on top.

If there's good news, it's that none of these sell as well as an old-fashioned hot dog. Even as the Rangers trot out more creations, Mattox concedes that items such as the Boomstick and Tanaco make up only 20 percent of the Rangers' food profit. "We'll always sell more of the regular stuff," he says. "But this is an experience." Ⓑ

PHOTO ILLUSTRATION BY 731; BOOMSTICK: COURTESY DELAWARE NORTH; ALAMY (2); GETTY IMAGES (2)

JANIE BRYANT

Costume designer, Mad Men, *Los Angeles*

What's your job on *Mad Men*?
Dissecting the script, understanding the show's time period, and visualizing how the costume design changes through each character's story arc. I've been doing it since the first season.

Where do the costumes come from?
Some from costume houses in L.A. They're not like Halloween costume shops. They're for the film and TV industry. I also buy vintage from vendors around the country, and I'll create specifically for characters.

What's your work look?
A little rock 'n' roll. My nighttime style is more glamorous and bohemian—I love caftans.

Do you have a daytime uniform?
T-shirt, jeans, and a leather jacket. I pretty much always wear boots that come up to my knees.

Those are jeans?
Yeah, leather jeans. Flexible, not stiff.

Why the high boots?
There's a lot of dangerous equipment around, and sometimes I'm climbing ladders. I feel protected.

Are you wearing nail polish?
They're stickers. I work with my hands, and these don't chip. I just paint a clear coat over them.

Is that a wedding ring?
I love this ring for work because it's flat but still has amazing sparkles. I don't think any woman should be bound by one ring. Husbands should buy different wedding rings all the time.

Any advice on going for the *Mad Men* look?
For women, it's all about the sheath dress, which is fitted for bust, waist, and hips to create the hourglass silhouette. And a beautiful pair of pumps.

For men?
The perfectly tailored suit with a narrow lapel, skinny trousers, skinny belt, skinny tie, and a white French cuff shirt.

PHOTOGRAPH BY BRIAN GUIDO FOR BLOOMBERG BUSINESSWEEK

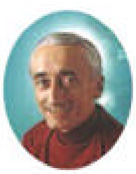
Interview by Arianne Cohen

How Did I Get Here?

GARY KELLY

Chairman, president, and chief executive officer, Southwest Airlines

"I wanted to be Jacques Cousteau—an oceanographer. I was scuba-certified and thought, This is the life for me."



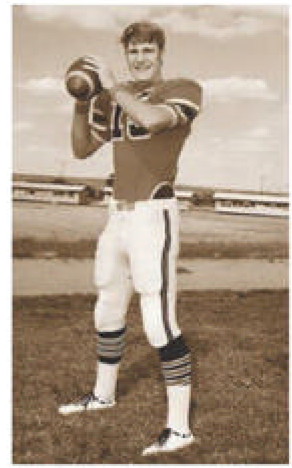
"There was no ocean nearby, so I switched to business and accounting."

Education

Winston Churchill High School, San Antonio, class of 1973

University of Texas at El Paso, 1973–74

University of Texas at Austin, class of 1977



Kelly as quarterback in high school

"I had a girlfriend in Austin, who's now my wife."

"It's the same 'Young' now in Ernst & Young. I desired to switch to the corporate side, to implement ideas I had for clients."

Work Experience

1977–83
Staff auditor, audit manager, Arthur Young

1983–86
Controller, Systems Center

1986–89
Controller, Southwest Airlines

1989–2001
Chief financial officer and vice president for finance, Southwest Airlines

2001–04
CFO and executive vice president, Southwest Airlines

2004–08
CEO and vice chairman, Southwest Airlines

2008–Present
Chairman, president, and CEO, Southwest Airlines

Discussing a new Southwest facility in Dallas, in April 2014

Southwest

"Southwest was very scrappy and, in a lot of ways, pretty unsophisticated. We were surrounded by giant airlines and had to be maverick."

"In a position like that, if you have ambitious things to accomplish, it takes a while. We went from 100 airplanes in 1989 to 300 airplanes in 2001."

"On 9/11 there was the horror, and the industry shut down. It was a tough three years."

AirTran

"The last year has been extraordinary. We launched international service and acquired AirTran. Our stock is at a lifetime high."

In 2008, Southwest takes over ATA

Kelly and fellow employees advocate to expand flights from Dallas Love Field

Kelly (who doesn't have a pilot's license) in 2004, shortly after becoming CEO

Life Lessons

1. "No person can overcome a lousy team." **2.** "Great leaders do their best work in the worst times." **3.** "Have fun."

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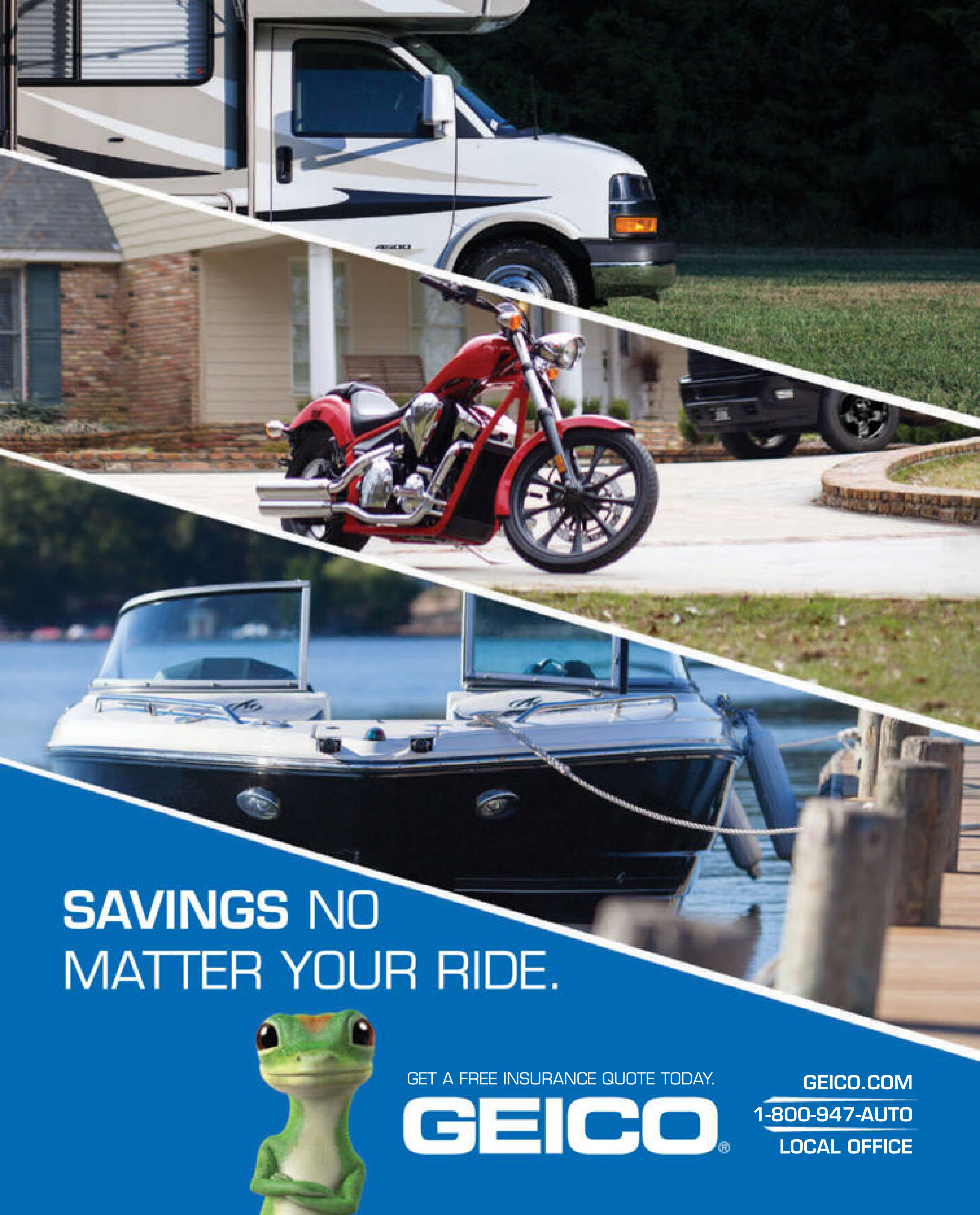
Kelly, clockwise from top: Jin Lee/Bloomberg; courtesy subject (4). Cousteau: Getty Images. Rings: Sergejs Nescereckis/Alamy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